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语言学教程

第三版

LINGUISTICS
A COURSE BOOK
Third Edition



胡壮麟 主编

北京大学出版社



语言学教程 (第三版)

《语言学教程》(第三版)在修订版基础上听取广大师生意见改编而成。包括语言学理论介绍,语音,词汇,句法,语义,语言和认知,语言和社会文化,语言和文学,语言和计算机,语言学 and 外语教学,语言学流派等十二章。

本书有以下几大特点:

权威性:名家撰著畅销近二十年,语言学教材经典之作

时代性:充分汲取国内外语言学研究的最新理论和成果

知识性:全面而系统阐述理论和应用语言学领域的内容

实用性:深入浅出脉络清晰,利于课上教学和课下自学

趣味性:生动插图与轻松例子合而为一,化枯燥为有趣

互动性:配有网络版,读者专家互动极大延伸求知空间

本教材适合高校英语专业本科学生以及语言学相关专业学生和研究人员使用,另配有练习册和光盘以及学习网站。

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第三版前言

自《语言学教程》修订版于2001年出版后,一转眼又是五年。不论是参与本教程的编写者,还是使用本书的老师 and 同学,都对本教程寄予厚望,并提出善意的批评。这是促使我们不厌其烦动手编写第三版的动力。

有位老师在获悉我们改编工作已经启动后,曾好奇地问我们这第三版是一项大兴土木的工程,还是小打小闹作些局部修改?我一时语塞,觉得此举非三言两语能说得清楚。现在该是向学界同行和本书用户作些交代的时候了。

从1987年编写本书第一版时,我们就面临在本教程的学术性和通俗性之间进行抉择的矛盾。考虑到各高校开设语言学课程已有十余年的历史,我们在上世纪末认为该是实现已故许国璋先生和王宗炎先生在本教程中所提出的严格要求的时候了,这是修订版的总体指导思想。修订版问世后,不少高校把本书作为报考语言学研究生的指定书目,这是对本教材的肯定和鼓励。但我们也听到较多反映,修订版难度增加了。因此,第三版改编的主要任务是在保持修订版的质量要求的同时,适当删除一些本科阶段可暂时不学的内容,行文力图改繁就简。我们另一个指导思想是本教程既要为中等偏上的高校使用,也要适应更多学校的需要,因此每章的内容可以略多,这样程度较好的同学有东西可学,又可以让老师根据本校学生的水平选择部分主要内容进行教学,各得其所。在这个意义上,把本次改编看做局部修订也可。

但我们也有不少推倒重来之处,例如第四章句法部分的内容,我们听取广大师生的意见,按初版的内容改写,同时避免与最后一章有关语言学理论和流派重复。又如,有关语言与认知关系(第六章),语言理论的应用(第十一章)尽可能反映本学科近年来的发展,都做了彻底改写。在语言学与计算机关系的第十章中,删去了信息提取的章节,补充了学生喜闻乐见的内容。其他各章也有一定程度的删减。

第三版有一个重大变化,那就是我们尽可能地充实了“问题与练习”的内容,前者旨在提高学生的思维判断和创新能力,后者有助于提高实际运用和巩固所学知识的能力。我们根据广大师生的要求,另行编写了练习册,老师和同学可以根据实际需要加以利用。

此外,学生较多地反映,学习语言学总觉得枯燥。我们在第三版中增添了一

些插图。是否能达到预期目的,请使用者多提意见。我们谨向一些插图的原作者预致谢意。

除纸质版外,我们还将陆续出版电子版和网络版,以满足不同读者的需要。这一工作由北京林业大学史宝辉教授负责总的策划。在深层次上,我们则希望
在多模态化学习上作些尝试。

在编写《练习册》某些章节的思考题和练习答案时,我们曾获得北京交通大学叶起昌博士,解放军南京国际关系学院和北京师范大学的同学的帮助,在此一并表示感谢。在此意义上,本教材是集体智慧的结晶。

参加第三版编写工作的人员为:

- | | | |
|------|-----|------------------|
| 第一章 | 李战子 | 南京国际关系学院英语系主任、教授 |
| 第二章 | 史宝辉 | 北京林业大学外语学院院长、教授 |
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| 第四章 | 叶起昌 | 北京交通大学外语系副教授 |
| | 胡壮麟 | 北京大学外语学院教授 |
| 第五章 | 姜望琪 | 北京大学外语学院教授 |
| 第六章 | 齐振海 | 北京第二外国语学院教授 |
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| 第七章 | 杨永林 | 清华大学外语系教授 |
| 第八章 | 姜望琪 | 北京大学外语学院教授 |
| 第九章 | 刘世生 | 清华大学外语系副系主任、教授 |
| 第十章 | 胡壮麟 | 北京大学外语学院教授 |
| 第十一章 | 程晓堂 | 北京师范大学外文学院教授 |
| 第十二章 | 封宗信 | 清华大学外语系教授 |

热忱欢迎各校教师和学生一如既往对本教材不吝赐教。

胡壮麟

2006年5月

修订版前言

《语言学教程》于1987年出版,1992年获得国家教委优秀教材一等奖。

在一片赞美声中,我们的头脑是清醒的。《教程》有许多不足之处,除校勘不力和理解有误外,缺乏批判性和原创性。按理说,应及时修订,我们却几乎没有考虑。一方面,国内同类型的新教材陆续问世,不少方面比《教程》做得更好;另一方面,原编写者有的移居海外,有的忙于这样那样的事务,有的已经退休,难再集中。于是我们对《教程》曾持消极的态度,任它自生自灭。但在出版社、同行和读者们的鼓励下,我们还是改变初衷,编写这一修订版。

明眼人会很快发现,修订版删除了一些章节,合并了一些章节,增加了一些章节。这方面,我们听取了在第一线使用本书的老师们的意见,有些意义不大的内容可以不学或少学,而十余年来在语言学领域中新的进展应尽量反映。原先作为附录的两章继续保留,因为一些曾经考过研究生的年轻学者反映,这方面的内容对他/她们当时复习考研极有帮助。读者也会发现,虽然没能提出新的理论体系,我们已尽可能地对一些问题提出争论,亮出观点,即使是不完全成熟的。此举也算不辜负为本书作序的王宗炎先生和许国璋先生的殷切期望吧!修订版还有一个变化,体现在编写者队伍发生了很大变动,用时兴的话说,年轻化。新人新气象,这保证了修订版的不落俗套。当然,他/她们更期待读者们的鼓舞和帮助。我想,初版的原作者会为这一新人辈出的新现象感到高兴。参加修订本书各章的人员为:

第一章	李战子	南京国际关系学院
第二章	史宝辉	北京林业大学外语系
第三章	彭宣维	北京师范大学外语系
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第十章	胡壮麟	北京大学英语系
	彭宣维	北京师范大学外语系
第十一章	高一虹	北京大学英语系
	罗立胜	清华大学外语系
	程晓堂	北京师范大学外语系
第十二章	封宗信	清华大学外语系

在编写修订版时,我们碰到了十余年前同样的问题,以浅近、通俗、趣味为主,还是以深透、理论、学术为主?本书的编写者有不同的看法,不同的读者也有不同的反响,这是自然的。为解决这一矛盾,经出版社同意,我们决定将难度较大、理论性较强的内容另出一书,供研究生用。即使如此,这种格调不一的缺点仍是本书的最大遗憾。我们谨在此向读者预致歉意。

在《教程》中曾编了一些练习,但未提供答案。知内情者,曾向主编索取未公开出版的答案。后来,据说南方有位老师好心地收入他的考题大全了。经参编者讨论后,修订版除对问题和练习做了一些调整和补充外,把答案也附上了。此举是利是弊,我们拭目以待。

还听说,有家出版社曾出版过《教程》的英汉对照本,如对修订版也感兴趣,望与北京大学出版社早日联系。

编 者

2001 年 3 月

第一版前言

自 50 年代末,西方国家在语言学领域新说纷出,建树颇多,其影响遍及心理学、社会学、教育学、人类学、通信技术等学科,从此各大学相继设立语言学系,培养专业人才。由于种种原因,这门学科的意义似乎还没有引起我国语言学界的足够重视。尽管如此,自 1980 年以来,国内已有较多院校的英语专业陆续开出以英语讲授的各种语言学课程,最普遍的首推“普通语言学”和“语言学导论”。为此,1984 年高等院校英语专业高年级教学讨论会提出的教学试行方案,建议把英语语言学作为英语本科的必修课程。考虑到国外教材无法大批量引进,且内容并不完全适用,有的过于深奥,有的举例较偏,有的缺少练习。根据国外现有材料,整理编写一部适用于我国英语专业学生需要的教材势在必行。正是在此形势下,我们联合起来,共同编写此《语言学教程》。在编写过程中参考引用较多的语言学教材有:M. Alyeshmerni and P. Taubr(1975), D. Bolinger(1968), D. Crystal(1980), F. P. Dinneen(1967), V. Fromkin and R. Rodman(1983), H. A. Gleason(1961), C. W. Hayes, et al. (1977), A. A. Hill(1969), C. F. Hockett(1958), J. Lyons(1981), Lim Kiat Boey(1975), N. Minnis(1973), J. Richards et al(1985), R. H. Robins(1971), J. M. Y. Simpson(1972), R. Wardhaugh(1972)。

编写本书的指导原则是:(1)以英语专业高年级学生为主要对象,也可供英语专业的研究生使用。(2)用英语编写,尽可能选用英语例句。(3)在内容上,既要传授基本知识,也要反映语言学中的最新发展。(4)在观点上,不拘泥于一派之说。(5)讲授本书内容时可详可简,授课教师可根据自己学校的教学方案和学生程度进行调整。

根据上述思想,全书正篇十六章,可分成两大部分。一至九章为第一部分,介绍语言起源及内部各层次;十至十六章为第二部分,讲授语言在时空中的变异及其与思维、文化、社会、语境、文学等外部因素的关系。此外,尚有两个附录,分别讨论语言学与教学的关系和当代语言学中的重要流派。考虑到相当一部分英语专业学生毕业后直接从事英语教学工作或拟进一步攻读硕士学位,附录的内容对他们会有帮助。

本书每章包括课文、练习和参考文献。书目左上端有星号者也为推荐阅读书目。全书末尾附有词条译名和索引,便于读者查阅。

先后参加本书编写工作的有北京大学胡壮麟(第五、六、七、九、十和十四章)、姜望琪(第三、四章)和高一虹(附录 I),北京外语学院刘润清(第十五章和附录 II)和郭健生(第十三章 13.1~13.2.1 和十五章),对外经济贸易大学黄震华(第八和十六章)、杨潮光(第十一章)和慈继伟(第十三章 13.2.2—13.3.3),山东大学李延福(第一和二章),聊城师范学院张德禄(第十二章)。

本书曾受到国内专家和同行的指导和帮助。在初稿写成后,承蒙中山大学王宗炎教授、北京师范大学伍铁平教授、中国社会科学院语言研究所赵世开研究员、对外经济贸易大学廖雅章教授给以热情鼓励并提出宝贵意见。

经国家教委外语教材编审委员会英语组安排,担任本书主审工作的为北京外语学院许国璋教授和广州外语学院桂诗春教授,审稿会召集人为山东大学吴富恒教授。参加审稿会的尚有山东大学张健教授,厦门大学黄希哲副教授,西安外语学院黄浩枢副教授,上海外语学院何兆熊副教授,山东师范大学马传喜副教授和曲阜师范学院王守元副教授。1986 年 10 月,在山东大学召开了审稿会,会后由主编统纂定稿。本书在内容和编写上未必能尽如人意,不当之处,恳切期望国内专家同行和读者惠予批评指正。

编 者

1987 年 2 月,于北京

第一版序

胡壮麟、刘润清、李延福等同志编的《语言学教程》(英文)的出版,标志着中国外语教育界对语言学这一学科的重视。几位编者广泛取材,多方征求意见,反复修改,工作可谓扎扎实实。近年来,国内外语同行已出过结合不同语种的语言学入门教程五六种。本书出版不算早,但范围扩大了,信息增加了;再过两三年,还会有针对师范专业和科技专业的同类教材编印出来;与此同时,我国外语院所开语言学课程除普通语言学之外,还有社会语言学、心理语言学、应用语言学、音系学、句法学、语用学、文体学等课程。这一切又标志着语言诸学科在中国外语界的兴起。在50年代,曾引进语言史、词汇学、理论语法、风格论等课程,但比起现在所开设的语言学课程,前者多半是表层语言现象的概括,属于语文学的范围,后者更着重语言理论的阐发,属于现代语言学的范围。看到这一改革,我们不妨说语言学课程的开设,又标志着中国外语教育的一个方面在现代化的道路上迈出了一步。

但是,现代化的目标不能停止在引进上。这一点,国内外语教材的改革颇有点像国内工业生产的改革:都忙于引进,说不上自创。不过外语界引进的是理论,而工业界引进的是成套设备,是硬件。况且,外语界具有读懂外国理论的外语条件和验证理论的教学环境,因此应该是有利的。

但是,我们觉得有必要从“引进”走到“自创”,其条件是:

1. 引进的理论,能用汉语说得清、讲得懂;能用汉语的例证加以测验。
2. 凡有可能,不妨采用现场工作法。我国社会语言学、心理语言学和测试学研究者已做出榜样,值得学习。
3. 凡在汉语诸范畴中验证外国某一理论,其有解释力者肯定之,其解释力太强或不具解释力者指出之,其主观臆测者直言之,不以权威而护短,不以宗师而慑服。
4. 尊重我所不懂或不明白价值所在理论,不以有用无用、正统邪说为取

与舍的标准。对理论有矢志不渝的精神,理解深,教得熟,力求贯通,比较,自创。

5. 汉语研究者中的前辈已经做出的自创,外语系出身的研究者应该认真读,读懂,直至应用到自己的研究工作。

写以上,为了自勉,也与国内同行共勉。

王宗炎 许国璋

1987年10月

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Invitations to Linguistics

1.1 Why Study Language?

LANGUAGE is such an integral part of our life and humanity that too much about it has been taken for granted. For some people, language may not even be considered a worthy subject for academic study. They take it as a tool for access to other fields of knowledge rather than as a subject in and of itself. However, if you pause and think of the following myths about language, it is indeed necessary to reconsider how much we really understand about the nature of language and its role in our life. And you may be surprised to realize that some of our most damaging racial, ethnic, and socio-economic prejudices are based on our linguistic ignorance and wrong ideas about language.

Myth 1. Language is only a means of communication.

Myth 2. Language has a form-meaning correspondence.

Myth 3. The function of language is to exchange information.

Myth 4. English is more difficult to learn than Chinese.

Myth 5. Black English is not standard and should be reformed.

.....

The list of myths may go on and by the end of this course if you look back on them, we hope you may find these wide-spread views not so truthful after all.

The following are some fundamental views about language, which you may instinctively agree without having thought about the reasons, or you may not agree at the moment. Follow this course and you will find they are discussed in more detail in the ensuing chapters.

(1) Children learn their native language swiftly, efficiently and without instruction.

(2) Language operates by rules.

(3) All languages have three major components: a sound system, a



system of lexicogrammar and a system of semantics.

(4) Everyone speaks a dialect.

(5) Language slowly changes.

(6) Speakers of all languages employ a range of styles and a set of jargons.

(7) Languages are intimately related to the societies and individuals who use them.

(8) Writing is derivative of speech.

People find the subject of language intriguing and useful for many different reasons. Linguistics can be used as a way of finding out more about how the brain works, or how damage to the brain results in certain kind of language disorders, how children learn language, how people learn and teach different languages, what the relationship between meaning and perception is, what the role of language is in different cultures, why people use different varieties of language, why there are linguistic differences between different groups, and how scientists make the computer work in a more human-like manner. This course book will serve as a starting point from which you may go on exploring in one of the above and other language-related fields.

Let us mention here the broader educational concerns. We can all note that language plays a central role in our lives as individuals and social beings. If we are not fully aware of the nature and mechanism of our language, we will be ignorant of what constitutes our essential humanity. The understanding of language should not be confined to linguists, as it is a vital human resource that all of us share.

1.2 What Is Language?

Webster's New World Dictionary offers several most frequently used senses of the word "language", namely, [1] (a) human speech; (b) the ability to communicate by this means; (c) a system of vocal sounds and combinations of such sounds to which meaning is attributed, used for the expression or communication of thoughts and feelings; (d) the written representation of such a



system; [2] (a) any means of expressing or communicating, as gestures, signs, or animal sounds; (b) a special set of symbols, letters, numerals, rules etc. used for the transmission of information, as in a computer; ... (p. 759) Suffice it to say here that though we use the word in its

various senses, we focus here on its primary sense: namely, [1](a)(b)(c)(d).

The study of other senses also receives attention in contemporary linguistics, for instance, the study of multimodal discourse which resorts to such symbolic resources as images and sounds. The term multimodal refers to at least five modes of meaning-making: linguistic, visual, gestural, spatial and audio, working together to create texts.

In this sense, all texts are multi-modal as different modes of meaning interact with each other—words and images are organized on a page to create a newspaper article; images, sounds, and gestures are integrated to create a play or television program; words are spoken in a soft voice or typed in a small font to convey a particular meaning; a photograph is tightly framed to create a feeling of confinement.

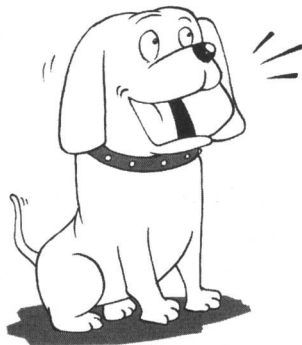
To give the barest of definition, language is a means of verbal communication. It is instrumental in that communicating by speaking or writing is a purposeful act. It is social and conventional in that language is a social semiotic and communication can only take place effectively if all the users share a broad understanding of human interaction including such associated factors as nonverbal cues, motivation, and socio-cultural roles. Language learning and use are determined by the intervention of biological, cognitive, psychosocial, and environmental factors. In short, language distinguishes us from animals because it is far more sophisticated than any animal communication system.

1.3 Design Features of Language

We would all agree that language is essential to human beings but we may find it hard to specify what makes our language advantageous over animal “languages”. In order to mate, propagate and cooperate in their colonies, species like birds and bees also communicate by singing or dancing, following a very elaborate routine too. Are they using language too? Not really. The well-known philosopher Bertrand Russell once observed something to the effect — “No matter how eloquently a dog may bark, he cannot tell you that his parents were poor but honest.” So what makes human language so complicated and flexible, so unrestrained by the immediate context and so capable of creating new meanings, in a word, so distinctive from languages used by other species? The features that define our human languages can be called DESIGN FEATURES. The following are the frequently discussed ones:

1.3.1 Arbitrariness

The widely accepted meaning of this feature which was discussed by Saussure first refers to the fact that the forms of linguistic signs bear no natural relationship to their meaning. For instance, we cannot explain why a *book* is called a /buk/ and a pen a /pen/. However there seems to be different levels of ARBITRARINESS.



(1) Arbitrary relationship between the sound of a morpheme and its meaning

You may object to this when you think of words with different degrees of onomatopoeia, namely, words that sound like the sounds they describe. e.g. In Chinese 叮咚, 轰隆, 叽哩咕噜. These linguistic forms seem to have a natural basis. But in English, totally different words are used to describe the sound. For example, the dog barks bowwow in English but 汪汪汪 in Chinese.

But there are some misunderstandings about the onomatopoeic effect. As a matter of fact, arbitrary and onomatopoeic effect may work at the same time. For example, Widdowson cites a line from Keats' *Ode to a Nightingale* to illustrate:

Ex. 1 - 1

The murmurous haunt of flies on summer eves.

If you read it aloud, you may feel the connection between the sounds and the meaning. But the effect does not really result from the whispering sounds themselves, for you will have to know the meanings of the words *murmurous*, *summer*, *eves* before setting up such a connection. To test this, just think of using the similar sounding word *murderous* to substitute *murmurous*, and no connection whatsoever will be established between the sounds and the little noises of the flying flies. "It is only when you know the meaning that you infer that the form is appropriate." (Widdowson, 1996:6) This also applies to many cases of the so-called onomatopoeic words.

(2) Arbitrariness at the syntactic level

According to systemic-functionalists and American functionalists, language is not arbitrary at the syntactic level.

By syntax we refer to the ways that sentences are constructed according to the grammar of arrangement. As we know, the order of elements in a sentence follows certain rules, and there is a certain degree of correspondence between the

sequence of clauses and the real happenings. In other words, syntax is less arbitrary than words, especially in so far as this kind of order is concerned. Compare:

Ex. 1 – 2

- (a) He came in and sat down.
- (b) He sat down and came in.
- (c) He sat down after he came in.

Sentence (a) means the man came in first and then he sat down, but (b) means the opposite, perhaps he got into his wheelchair and propelled himself into the room. In(c) with the help of the word “after” we can reverse the order of the clauses. Therefore the functionalists hold that the most strictly arbitrary level of language exists in the distinctive units of sounds by which we distinguish pairs of words like *pin* and *bin*, or *fish* and *dish*.

(3) Arbitrariness and convention

What then is the link between a linguistic sign and its meaning? It is a matter of CONVENTION. Here we have to look at the other side of the coin of arbitrariness, namely, conventionality. As learners of English we are often told “this is an idiom” – meaning it is conventional to say things this way and you cannot change the expression any other way even if you think it does not look or sound logical. Arbitrariness of language makes it potentially creative, and conventionality of language makes learning a language laborious. For learners of a foreign language, it is the conventionality of a language that is more worth noticing than its arbitrariness. That may be why when we are burying ourselves in memorizing idioms, we feel nothing of the arbitrariness of the language but are somewhat tortured by its conventionality.

1.3.2 Duality

“By DUALITY is meant the property of having two levels of structures, such that units of the primary level are composed of elements of the secondary level and each of the two levels has its own principles of organization” (Lyons, 1981:20).

Roughly speaking, the elements of the spoken language are sounds which do not convey meaning in themselves. The only function of sounds is to combine with one another to form units that have meaning, such as words. We call sounds here secondary units as opposed to such primary units as words, since the secondary units are meaningless and the primary units have distinct and identifiable meaning. The property of duality then only exists in such a system, namely, with both elements and units. Many animals communicate with special

calls, which have corresponding meanings. That is, the primary units have meanings but cannot be further divided into elements. So we say animal communication systems do not have this design feature of human language—the property of duality. Consequently, the communicative power of animal language is highly limited, to speak from a human-centered perspective.

To talk about duality we must notice that language is hierarchical. If we listen to a foreign language we do not understand, it may seem that fluent speakers seem to be talking in a continuous stream. However, no language is truly continuous. To convey discrete meanings there have to be discrete units, and the first task in decoding a new language is finding out these discrete units. The lowest level consists of dozens of bits of meaningless sounds which occur in chumps that we call syllables. A syllable is the smallest unit that is normally spoken by itself. Scores of syllables become the carriers of hundreds of meaningful segments of words that are called morphemes, such as the prefix *trans-* or the suffix *-ism*. With thousands of words we associate millions of meanings, and on top of these millions—astronomical number of possible sentences/utterances and texts/discourses.

As Bolinger and Sears put it, “Stratification—this organization of levels on levels—is the physical manifestation of the ‘infinite use of finite means’, the trait that most distinguishes human communication and that provides its tremendous resourcefulness.” (1981: 3–4)

Now we can perceive the advantage of duality, which lies in the great productive power our language is endowed with. A large number of different units can be formed out of a small number of elements—for instance, tens of thousands of words out of a small set of sounds, around 48 in the case of the English language. And out of the huge number of words, there can be endless number of sentences, which in turn can form unlimited number of texts.

1.3.3 Creativity

By CREATIVITY we mean language is resourceful because of its duality and its recursiveness. One of the reasons why language is actually a far more complicated entity than traffic lights is that we can use it to create new meanings. There are numerous examples to illustrate that words can be used in new ways to mean new things, and can be instantly understood by people who have never come across that usage before. This ability is one of the things that sets human language apart from the kind of communication that goes on, for example, between birds, which can only convey a limited range of message. (Thomas & Shan, 2004:7)

If language is defined merely as a system of communication, then language is not unique to humans. As we know, birds, bees, crabs, spiders, and most other creatures communicate in some way, but the information imparted is severely limited and confined to a small set of messages. The creativity of language partly originates from its duality which we just discussed in the above section, because of duality the speaker is able to combine the basic linguistic units to form an infinite set of sentences, most of which are never before produced or heard.

Language is creative in another sense, that is, its potential to create endless sentences. The recursive nature of language provides a theoretical basis for this possibility. For instance, we can write a sentence like the following and go on endlessly:

Ex. 1 - 3

He bought a book which was written by a teacher who taught in a school which was known for its graduates who...

1.3.4 Displacement

DISPLACEMENT means that human languages enable their users to symbolize objects, events and concepts which are not present (in time and space) at the moment of communication. Thus, I can refer to Confucius, or the North Pole, even though the first has been dead for over 2550 years and the second is situated far away from us.

Most animals respond communicatively as soon as they are stimulated by some occurrence of communal interest. For instance, a warning cry of a bird instantly announces danger. Such animals are under "immediate stimulus control". Human language is, unlike animal communication systems, stimulus-free. What we are talking about need not be triggered by any external stimulus in the world or any internal state. The honeybee's dance exhibits displacement a little bit; he can refer to a source of food, which is remote in time and space when he reports on it. A dog cannot tell people that its master will be home in a few days. Our language enables us to communicate about things that do not exist or do not yet exist.



Displacement benefits human beings by giving them the power to handle generalizations and abstractions. Indeed words are often used not in such immediate physical context when they denote concrete objects. They are often used with a deference for referential application. Once we can talk about

physically distant thing, we acquire the ability to understand concepts which denote “non-things”, such as truth and beauty. In a word, the intellectual benefits of displacement to us is that it makes it possible for us to talk and think in abstract terms. (Fowler, 1974:8)

1.4 Origin of Language

“In the beginning was the Word, and the Word was with God, and the Word was God.” (Gospel of John 1:1)

“And the Lord said, Behold, the people is one, and they have all one language; and this they begin to do; and now nothing will be restrained from them, which they have imagined to do.” (Genesis, 11:6)

These pieces of scripture seem to suggest some mysterious origin of the language. What we know is that today the people of the world use more than 6,000 different languages and the innumerable dialects. The unity is gone. We no longer understand each other. There are some well-known theories about the origin of language though some of them have now been discredited. The following are some of them:

The “bow-wow” theory: In primitive times people imitated the sounds of the animal calls in the wild environment they lived and speech developed from that. Onomatopoeic words seem to be a convenient evidence for this theory. But in our discussion below we can find they are very different in the degree of resemblance they express with the natural sounds. This theory lacks supportive evidence.

The “pooh-pooh” theory: In the hard life of our primitive ancestors, they utter instinctive sounds of pain, anger and joy. As for evidence, we can only cite the universal use of sounds as interjections. What makes the theory problematic is that there is only a limited number of interjections in almost all languages. Besides, interjections such as *Oh*, *Ah*, *Aiyo* bear little relationship with the sound system of a language and therefore are not good evidence.

The “yo-he-ho” theory: As primitive people worked together, they produced some rhythmic grunts which gradually developed into chants and then into language. We do have prosodic use of rhythms in languages, but rhythmic grunts are far different from language in its present sense. The theory is again at most a speculation.

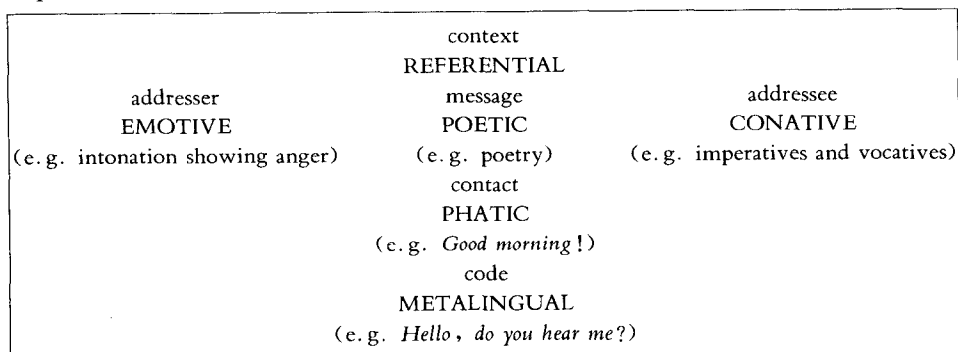
We may go on with all sorts of fanciful speculations, but suffice it to say here that the by-now fruitless search for the origin of languages reflects people's

concern with the origin of humanity and may come up with enlightening findings in future. And one thing we can say for certain is that language evolves within specific historical, social and cultural contexts.

1.5 Functions of Language

Linguists talk about the **FUNCTIONS** of language in an abstract sense, that is, not in terms of using language to chat, to think, to buy and sell, to read and write, to greet, praise and condemn people, etc. They summarize these practical functions and attempt some broad classifications of the basic functions of language like the following:

For Jakobson, language is above all, as any semiotic system, for communication. While for many people, the purpose of communication is referential, for Jakobson (and the Prague school structuralists), reference is not the only, not even the primary goal of communication. In his famous article, *Linguistics and Poetics* (1960), Jakobson defined the six primary factors of any speech event, namely: speaker, addressee, context, message, code, contact. In conjunction with these, Jakobson established a well-known framework of language functions based on the six key elements of communication, namely: referential (to convey message and information), poetic (to indulge in language for its own sake), emotive (to express attitudes, feelings and emotions), conative (to persuade and influence others through commands and requests), phatic (to establish communion with others) and metalingual function (to clear up intentions and meanings). They correspond to such communication elements as context, message, addresser, addressee, contact and code respectively. Jakobson's (1960) views of the functions of language are still of great importance; see the following figure.



Halliday proposes a theory of metafunctions of language, that is, language has IDEATIONAL, INTERPERSONAL and TEXTUAL functions. Ideational function constructs a model of experience as well as logical relations, interpersonal function enacts social relationships and textual function creates relevance to context (Halliday, 1994).

In his earlier works, Halliday proposed seven categories of language functions by observing child language development, that is, instrumental, regulatory, representational, interactional, personal, heuristic and imaginative. Still other classifications employ different categories and use different terms, but all share a lot in common about the basic functions of language. Our list below is a summary for the convenience of presentation. The categories can still be somewhat overlapping.

1.5.1 Informative

For most people the informative function is predominantly the major role of language. Language is the instrument of thought and people often feel need to speak their thoughts aloud, for instance, when they are working on a math problem. The use of language to record the facts is a prerequisite of social development. This is indeed a crucial function of language.

It is also called ideational function in the framework of functional grammar. Halliday notes that "Language serves for the expression of content"; that is, of the speaker's experience of the real world, including the inner world of his own consciousness. . . . In serving this function, language also gives structure to experience, and helps to determine our way of looking at things, so that it requires some intellectual effort to see them in any other way than that which our language suggests to us." (in Lyons, 1970:143)

1.5.2 Interpersonal Function

By far the most important sociological use of language is the interpersonal function, by which people establish and maintain their status in a society. In the framework of functional grammar, this function is concerned with interaction between the addresser and addressee in the discourse situation and the addresser's attitude toward what he speaks or writes about. For example, the ways in which people address others and refer to themselves (e. g. *Dear Sir*, *Dear Professor*, *Johnny*, *yours*, *your obedient servant*) indicate the various grades of interpersonal relations.

"Language serves to establish and maintain social rules, which include the communication roles created by language itself—for example the roles of

questioner and respondent, which we take on by asking or answering a question;... Through this function, ... social groups are delimited, and the individual is identified and reinforced, since by enabling him to interact with others language also serves in the expression and development of his own personality...." (Halliday, in Lyons, 1970:143) Attached to the interpersonal function of language is its function of expressing identity. For example, the chanting of a crowd at a football match, the shouting of names or slogans at public meetings, the stage-managed audience reactions to TV game shows all signal who we are and where we belong. Language marks our identity, physically in terms of age, sex, and voiceprints; psychologically in terms of language, personality and intelligence; geographically in terms of accents and dialects; ethnically and socially in terms of social stratification, class, status, role, solidarity and distance. (Crystal, 1992:17)

The interpersonal function is such a broad category that it is often discussed under various other terms as in the following performative, emotive, expressive and phatic function of language. They seem to emphasize different aspects of the interpersonal function.

1.5.3 Performative

This concept originates from the philosophical study of language represented by Austin and Searle, whose theory now forms the back-bone of pragmatics. (see section 8.1)

The performative function of language is primarily to change the social status of persons, as in marriage ceremonies, the sentencing of criminals, the blessing of children, the naming of a ship at a launching ceremony, and the cursing of enemies. The kind of language employed in performative verbal acts is usually quite formal and even ritualized.

The performative function can extend to the control of reality as on some magical or religious occasions. For example, in Chinese when someone breaks a bowl or a plate the host or the people present are likely to say *sui sui ping an* (every year be safe and happy) as a means of controlling the invisible forces which the believers feel might affect their lives adversely.

1.5.4 Emotive Function

According to some investigations, though the conveying of information occurs in most uses of language, it probably represents not more than 20 percent of what takes place in verbal communication (Nida, 1998:17). The emotive

function of language is one of the most powerful uses of language because it is crucial in changing the emotional status of an audience for or against someone or something. According to Crystal(1992:17), it is a means of getting rid of our nervous energy when we are under stress, e. g. swear words, obscenities, involuntary verbal reactions to a piece of art or scenery; conventional words/phrases, e.g. *God, My, Damn it, What a sight, Wow, Ugh, Oh...*

This function is also discussed under the term expressive function. The expressive function can often be entirely personal and totally without any implication of communication to others. For example, a man may say *ouch!* after striking a fingernail with a hammer, or he may mutter *damn* when realizing that he has forgotten an appointment. Exclamations such as *Man! Oh boy!* and *hurrah!* are usually uttered without any purpose of communicating to others, but as essentially a verbal response to a person's own feelings. Such expressive utterances can also be a communal response of a group of people who reinforce one another's expressive use of language to show their solidarity. (Nida, 1998:21)

1.5.5 Phatic Communion

The term PHATIC COMMUNION originates from Malinowski's study of the functions of language performed by Trobriand Islanders.

It refers to the social interaction of language.

Ex. 1 - 4

Mrs. P sneezes violently.

Mrs. Q: Bless you.

Mrs. P: Thank you.



We all use such small, seemingly meaningless expressions to maintain a comfortable relationship between people without involving any factual content. Ritual exchanges about health or weather such as *Good morning, God bless you, Nice day* often state the obvious. Yet they indicate that a channel of communication is open if it should be needed. And different cultures have different topics of phatic communion. According to Crystal, the weather is not a universal

conversation filler as the English might like to think. Rundi women (in Burundi, Central Africa), upon taking leave, routinely and politely say “I must go home now, or my husband will beat me.” Broadly speaking, this function refers to expressions that help define and maintain interpersonal relations, such as slangs, jokes, jargons, ritualistic exchanges, switches to social and regional dialects. We have to learn a large repertoire of such usages if we are to interact comfortably with different people.

1.5.6 Recreational Function

The recreational function of a language is often overlooked because it seems so restrictive in purpose and supposedly so limited in usefulness. However, no one will deny the use of language for the sheer joy of using it, such as a baby’s babbling or a chanter’s chanting. In the Latin and Islamic worlds as well as in some areas of China, there is widespread use of verbal dueling, in which one singer begins a song of usually few lines and challenges his opponent to continue the content or provide a rejoinder in a similar rhythm and rhyme scheme. Such verbal duels may last for a few hours and is performed for the sheer joy of playing on language. To take one example, the well-known movie *Liu San Jie* features a scene of “dui ge” (song dueling) mostly for the sheer joy of playing on language.

If you observe a children’s play, you will find the power of sound. Sometimes even nonsensical lyrics perform a recreational function in the game: the repetitive rhythms help to control the game, and the children plainly take great delight in it. Adults also have their way to appreciate language for its own sake. For instance, poetry writing gives them the pleasure of using language for its sheer beauty. We are getting very close here to Jakobson’s poetic function.

1.5.7 Metalingual Function

Our language can be used to talk about itself. For example, I can use the word *book* to talk about a book, and I can also use the expression “the word book” to talk about the sign “book” itself. To organize any written text into a coherent whole, writers employ certain expressions to keep their readers informed about where they are and where they are going. For instance, instead of saying [a] *The lion chased the unicorn all round the town*, they say [b] *All around the town the lion chased the unicorn*. The change in linear order changes our perspective about the concerns of the clause— [a] answers the concern about “what did the lion do”, while [b] is concerned with “where or in what scope did

the lion chase the unicorn". This is the METALINGUAL function of language and meshes with the thematic function of language in functional grammar.

This makes the language infinitely self-reflexive: We human beings can talk about talk and think about thinking, and thus only humans can ask what it means to communicate, to think, to be human.

1.6 What Is Linguistics?

Having discussed about the design features and functions of language, the object of linguistics, we now come to the business itself—a brief discussion of what is linguistics and its status as a science. Linguistics is usually defined as the science of language or, alternatively, as the scientific study of language. Linguistics is a rich and exciting field.^①

However, there have been arguments about whether linguistics is a science, especially when it was just coming into being. But now the arguments die away and linguistics has firmly established its place as a major branch of humanities and social sciences as well. As a recognized academic subject, it is an area with immense research potential, and a scholarly “industry” which produces a large amount of books, dissertations and papers every year; its preoccupations are expressed in such specialized journals as *Language*, *Journal of Linguistics*, *Lingua*, *Applied Linguistics* etc., and at regular conferences.

The justification for all these booming ventures should be obvious from our previous discussion. Language is so valuable to the individual, so critical to the efficient functioning of human societies, and in itself so impressively intricate and profound in structure, that it is bound to attract a great amount of intellectual attention. And since this attention must produce studies which have practical importance (e.g. in speech therapy, education, techniques of translation and many more “applied” concerns), linguistics is bound to be an academically and economically favored pursuit. It is also a subject of theoretical importance, for one thing, structuralism originating from Saussure’s views has influenced many other related social sciences such as literary studies and social studies. In China the study of language has a long history but contemporary linguistics still

① You may find extremely informative websites about linguistics, for example, <http://www.linguist.org>; <http://www.logos.it/language-today>. Recently, many professional personal websites also flourish, where you can get a glimpse of the course outlines taught by scholars of linguistics all over the world.

has a long way to go to enjoy a “boom”.

As a science, linguistics now has a set of established theories, methods and sub-branches. As for its data, now the argument over intuition or corpus also fades as people realize the advantages of both and as corpus linguistics develops rapidly with the advent of computer technology. Lyons predicted in the seventies by pointing out that linguistics is empirical, rather than speculative or intuitive; it operates with publicly variable data obtained by means of observation or experiment (Lyons, 1981:38). Nowadays we are expecting the qualitative and quantitative research approaches to take an even divide and be more complementary in linguistic studies.

1.7 Main Branches of Linguistics

It is generally agreed that linguistics should include at least five parameters, namely, phonological, morphological, syntactic, semantic and pragmatic. The following are these main branches of linguistics.

1.7.1 Phonetics

PHONETICS studies speech sounds, including the production of speech, that is how speech sounds are actually made, transmitted and received, the description and classification of speech sounds, words and connected speech, etc.

Once we decide to begin an analysis of speech, we can approach it on various levels. At one level, speech is a matter of anatomy and physiology. We can study organs such as tongue and larynx and their functions in the production of speech. At another level, we can focus on the speech sounds produced by these organs by identifying and classifying the individual sounds. This is the domain of articulatory phonetics. We can also investigate the properties of the sound waves—acoustic phonetics. As speech is intended to be heard or perceived, it is therefore possible to focus on the way in which a listener analyses or processes a sound wave—auditory phonetics.

The four levels can be integrated though in this course book we will focus on articulatory phonetics. A solid knowledge of phonetics can serve as a good foundation for phonology. Without it, the study of phonology would be clueless.

1.7.2 Phonology

PHONOLOGY studies the rules governing the structure, distribution, and

sequencing of speech sounds and the shape of syllables. It deals with the sound system of a language by treating phoneme as the point of departure. A phoneme is the smallest linguistic unit of sound that can signal a difference in meaning. English has approximately forty-five phonemes. If you repeat the /p/ sound ten times, each production will vary slightly for some physiological reasons. In addition, the /p/ sound differs from that in *poor* or *soup* because each is influenced by the surrounding sounds. Even so, each /p/ sound is similar enough so as not to be confused with phonemes such as /b/ or /m/.

Phonetics is the study of speech sounds that the human voice is capable of creating whereas phonology is the study of a subset of those sounds that constitute language and meaning. The first focuses on chaos while the second focuses on order.

1.7.3 Morphology

MORPHOLOGY is concerned with the internal organization of words. It studies the minimal units of meaning—morphemes and word-formation processes. Although many people think of words as the basic meaningful elements of a language, many words can be broken down into still smaller units, called morphemes. Morphemes serve different purposes. Some derive new words by changing the meaning or the part of speech, others only refine and give extra grammatical information about the already existing meaning of a word. As morphemes are pairings of sounds with meanings, there are many complexities involved, forming a new field by the name morphophonology.

Languages differ in their degrees of dependence on the morphological components. In Latin, for example, meaning is changed through the use of many morphological endings. In contrast, in English word order is used more than morphological additions to convey much of the meaning of the utterance. For instance, *The dog sees the rabbit*. If we change the order of the words and get *The rabbit sees the dog*, the meaning of the sentence changes. But in Latin and also in Russian, *dog* and *rabbit* take on some morphological endings depending on whether they are subject or object of the sentence, and can therefore change places without affecting the meaning of the sentence.

1.7.4 Syntax

SYNTAX is about principles of forming and understanding correct English sentences. The form or structure of a sentence is governed by the rules of syntax. These rules specify word order, sentence organization, and the relationships

between words, word classes and other sentence elements. We know that words are organized into structures more than just word order. For example:

Ex. 1 – 5

a. The children watched [the firework from the hill].

b. The children watched [the firework][from the hill].

Here is a single string of words that without any change of order can have two quite different meanings, each corresponding to a possible structure. There are more. For instance: *The chicken is too hot to eat.*

1.7.5 Semantics

SEMANTICS examines how meaning is encoded in a language. It is not only concerned with meanings of words as lexical items, but also with levels of language below the word and above it, e. g. meanings of morphemes and sentences. The following are what the key concepts look like: semantic components, denotation of words, sense relations between words such as antonymy and synonymy, sense relations between sentences such as entailment and presupposition and more.

1.7.6 Pragmatics

PRAGMATICS is the study of meaning in context. It deals with particular utterances in particular situations and is especially concerned with the various ways in which many social contexts of language performance can influence interpretation. In other words, pragmatics is concerned with the way language is used to communicate rather than with the way language is internally structured.

It regards speech performance as primarily a social act ruled by various social conventions. Some key concepts such as reference, force, effect, and cooperative principles may appear commonsensical, yet pragmatics is just about one of the most promising fields of linguistic studies. Take conversation for example, since language is transmitted primarily via the speech mode, pragmatic rules govern a number of conversational interactions, such as sequential organization, repair of errors, role and speech acts. Organization of conversations includes taking turns, opening, maintaining and closing a conversation, establishing and maintaining a topic etc.

1.8 Macrolinguistics

Linguistics is not the only field concerned with language. Other disciplines

such as psychology, sociology, ethnography, the science of law and artificial intelligence etc. are also preoccupied with language. On the other hand, although "Saussure's goal was to establish the autonomy of linguistics, giving it a well-defined subject of study and freeing it from reliance on other disciplines, with its coming of age linguistics is developing interactive links with other sciences. The central goal of describing the underlying system remains; this is the province of general, descriptive linguistics. But since language has both individual and social aspects, it is naturally of interest to psychologists and sociologists among others" (Hartley, 1982:16). It is not surprising therefore we have some branches of MACROLINGUISTICS that show an interdisciplinary nature from the very names:

1.8.1 Psycholinguistics

PSYCHOLINGUISTICS investigates the interrelation of language and mind, in processing and producing utterances and in language acquisition for example. In the psycholinguistic study of grammar, the psycholinguistic constraints on the form of grammar are examined. It also studies language development in the child, such as the theories of language acquisition; biological foundations of language; and a profound aspect—the relationship between language and cognition. (Slobin, 1979)

1.8.2 Sociolinguistics

SOCIOLINGUISTICS is an umbrella term which covers a variety of different interests in language and society, including the social functions of language and the social characteristics of its users. Sociolinguistics is the study of the characteristics of language varieties, the characteristics of their functions, and the characteristics of their speakers as these three constantly interact and change within a speech community. It seeks to discover the societal rules and norms that explain and constrain language behavior and the attitudes toward language in speech communities. It also seeks to determine the symbolic value of language varieties for their speakers. The fact that language varieties come to take on symbolic or symptomatic value, in and of themselves, is an inevitable consequence of their functional differentiation.

1.8.3 Anthropological Linguistics

As a science, the study of languages is somewhat older than anthropology. The two disciplines became closely associated in the early days of anthropological

fieldwork when anthropologists enlisted the help of linguists to study unwritten languages. In contrast with other linguists, then, anthropological linguists are interested primarily in the history and structure of formerly unwritten languages. They are concerned with the emergence of language and also with the divergence of languages over thousands of years. Because an unwritten language must be heard in order to be studied, it does not leave any traces once its speakers died off. Anthropological linguists must begin in the present, with comparisons of contemporary languages. Then they may draw inferences about the kinds of change in language that may have occurred in the past and that may account for similarities and differences observed in the present. They typically ask such questions as: Did two or more contemporary languages diverge from a common ancestral language? If they are related, how far back in time did they begin to differ?

1.8.4 Computational Linguistics

COMPUTATIONAL LINGUISTICS is an interdisciplinary field which centers around the use of computers to process or produce human language(also known as “natural language”, to distinguish it from computer languages). To this field, linguistics contributes an understanding of the special properties of language data, and provides theories and descriptions of language structure and use. Computer Science contributes theories and techniques for designing and implementing computer systems. Some current application areas include translating from one language to another (Machine Translation), storing and finding relevant documents in large collections of text (Corpus Linguistics and Information Retrieval), and carrying out various forms of computer mediated communication.

1.9 Important Distinctions in Linguistics

1.9.1 Descriptive vs. Prescriptive

Consider the following:

Ex.1 – 6

Don't say X.

People don't say X.

The first is a PRESCRIPTIVE command, while the second is a DESCRIPTIVE statement. The distinction lies in prescribing how things ought

to be and describing how things are.

“To say that linguistics is a descriptive (i. e. non-normative) science is to say that the linguist tries to discover and record the rules to which the members of a language community actually conform and does not seek to impose upon them other (i. e. extraneous) rules, or norms, of correctness.” (Lyons, 1981:47)

The reason why present-day linguists are so insistent about the distinction between the two types of rules is simply that traditional grammar was very strongly normative in character, e. g. *You should never use a double-negative; You should not split the infinitive; etc.*

In the 18th century, all the main European languages were studied prescriptively. The grammarians then tried to lay down rules for the correct use of language and settle the disputes over usage once and for all. Some usages were prescribed to be learned by heart, followed accurately or avoided altogether. It was a matter of black or white, right or wrong.

These attitudes are still with us, though people realize nowadays the facts of usage count more than the authority-made “standards”. We can appeal neither to logic nor to Latin grammar when it comes to deciding whether something is or is not correct in English. It does not mean that there is no place at all for the establishment and prescription of norms of usage. “There are obvious administrative and education advantages, in the modern world, in standardizing the principal dialect that is employed within a particular country or region” (Lyons, 1981: 53). But the nature of linguistics as a science determines its preoccupation with description instead of prescription.

1.9.2 Synchronic vs. Diachronic

A SYNCHRONIC description takes a fixed instant (usually, but not necessarily, the present) as its point of observation. Most grammars are of this kind. If you take something called “A Grammar of Modern Greek” from the library shelves, it will usually claim to be a synchronic grammar; likewise “The Structure of Shakespeare’s English” claims to be a synchronic description of a single, past state of the language. But of course synchrony is a fiction, for language changes as the minutes pass and grammar-writing is a lengthy enterprise. However, the fiction of synchronic description is essential to linguistics. (Fowler, 1974:34).

Saussure’s DIACHRONIC linguistics is the study of a language through the course of its history. Historical linguistics was a pervasive interest of the Darwinist in the nineteenth century; in the course of their historical researches into the development of the Indo-European tongues, the philologists instituted a

firm tradition which had led to the production of much diachronic information about most of the culturally prominent, lettered languages of Europe.

1.9.3 Langue & Parole

Saussure distinguished the linguistic competence of the speaker and the actual phenomena or data of linguistics (utterances) as *LANGUE* and *PAROLE*. While parole constitutes the immediately accessible data, the linguist's proper object is the langue of each community, the lexicon, grammar, and phonology implanted in each individual by his upbringing in society and on the basis of which he speaks and understands his language.

"If we could embrace the sum of word-images stored in the minds of all individuals, we could identify the social bond that constitutes language (*langue*). It is a storehouse filled by the members of a given community through their active use of speaking (*parole*), a grammatical system that has a potential existence in each brain, or, more specifically, in the brains of a group of individuals. For language (*langue*) is not complete in any speaker; it exists perfectly only within a collectivity. In separating language (*langue*) from speaking (*parole*) we are at the same time separating (1) what is social from what is individual; and (2) what is essential from what is accessory and more or less accidental." (Saussure; *Course in General Linguistics* pp:13 - 14)

1.9.4 Competence and Performance

This fundamental distinction is discussed by Chomsky in his *Aspects of the Theory of Syntax*. A language user's underlying knowledge about the system of rules is called his linguistic competence. And performance refers to the actual use of language in concrete situations (Chomsky, 1965:3).

As a language user we all have intuitive grasp of the rules of language, and though we may not be able to state the rules explicitly, our performance demonstrates our adherence to them. If you have ever listened to an excited argument and tried to transcribe it, you will find that speakers do not always observe the linguistic rule. Instead there can be numerous false starts, deviations, and ungrammatical expressions even in the mature speaker.

Even pre-school children know virtually all the rules of language except for some subtleties. They learn the rules by actually using the language. A child demonstrates by the way he uses words that he knows what a noun is long before he can define the term. We can also observe the discrepancy between competence and performance in normal language users. According to Chomsky, the task of a

linguist is to determine from the data of performance the underlying system of rules that has been mastered by the language user.

Chomsky points out that this distinction is related to the langue-parole distinction of Saussure; but he does not accept the view of seeing langue as a mere systematic inventory of items. For him, competence is closer to the famous German linguist Humboldt's conception, that is, it should refer to the underlying competence as a system of generative processes.

Not all linguists agree with Chomsky in thinking that "linguistic theory is concerned primarily with an ideal speaker-listener, in a completely homogeneous speech-community, who knows its language perfectly" (1965: 3). Dell Hymes (1971) approaches language from a socio-cultural viewpoint with the aim of studying the varieties of ways of speaking on the part of the individual and the community. It is found that speakers vary their performance not at random but in a regular way. Thus it is possible to extend the notion of competence, restricted by Chomsky to a knowledge of grammar, to incorporate the pragmatic ability for language use. This extended idea of competence can be called communicative competence. And the concept, though still not so clarified, has become very popular in EFL (English as Foreign Language) teaching in China in the past two decades.

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Speech Sounds

As human beings we are capable of making all kinds of sounds, but only some of these sounds have become units in the language system. We can analyze speech sounds from various perspectives and the two major areas of study are phonetics and phonology. PHONETICS studies how speech sounds are produced, transmitted, and perceived. Imagine that the speech sound is articulated by a Speaker A. It is then transmitted to and perceived by a Listener B. Consequently, a speech sound goes through a three-step process, as shown in Figure 2.1.

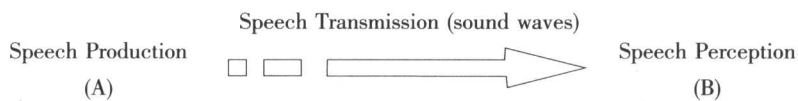
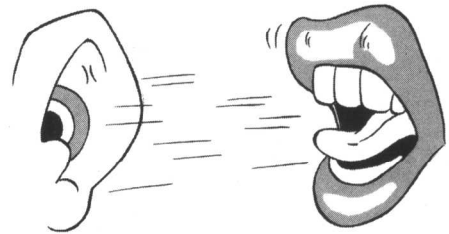


Figure 2.1 The process of speech production and perception

Naturally, the study of sounds is divided into three main areas, each dealing with one part of the process:

- **ARTICULATORY PHONETICS** is the study of the production of speech sounds.
- **ACOUSTIC PHONETICS** is the study of the physical properties of speech sounds.
- **PERCEPTUAL or AUDITORY PHONETICS** is concerned with the perception of speech sounds.

PHONOLOGY is the study of the sound patterns and sound systems of languages. It aims to “discover the principles that govern the way sounds are organized in languages, and to explain the variations that occur” (Crystal, 1997: 162).

In phonology we normally begin by analyzing an individual language, say English, in order to determine its **PHONOLOGICAL STRUCTURE**, i. e. which sound units are used and how they are put together. Then we compare the

properties of sound systems in different languages in order to make hypotheses about the rules that underlie the use of sounds in them, and ultimately we aim to discover the rules that underlie the sound patterns of all languages.

In this chapter, we will introduce and discuss some of the basic ideas of articulatory phonetics and phonological analysis.

2.1 How Speech Sounds Are Made?

2.1.1 Speech Organs

SPEECH ORGANS, also known as **VOCAL ORGANS**, are those parts of the human body involved in the production of speech (Figure 2.2). It is striking to see how much of the human body is involved in the production of speech: the lungs, the trachea (or windpipe), the throat, the nose, and the mouth.

The pharynx, mouth, and nose form the three cavities of the **VOCAL TRACT**. Speech sounds are produced with an **AIRSTREAM** as their sources of energy. In most circumstances, the airstream comes from the lungs. It is forced out of the lungs and then passes through the bronchioles and bronchi, a series of branching tubes, into the trachea. Then the air is modified at various points in various ways in the larynx, and in the oral and nasal cavities; the mouth and the nose are often referred to, respectively, as the **ORAL CAVITY** and the **NASAL CAVITY**.

Inside the oral cavity, we need to distinguish the tongue and various parts of the palate, while inside the throat, we have to distinguish the upper part, called **PHARYNX**, from the lower part, known as **LARYNX**. The larynx opens into a muscular tube, the pharynx, part of which can be seen in a mirror. The upper part of the pharynx connects to the oral and nasal cavities.

The contents of the mouth are very important for speech production. Starting from the front, the upper part of the mouth includes the upper lip, the upper teeth, the alveolar ridge, the hard palate, the soft palate (or the velum), and the uvula. The soft palate can be lowered to allow air to pass through the nasal cavity. When the oral cavity is at the same time blocked, a **NASAL** sound is produced.

The bottom part of the mouth contains the lower lip, the lower teeth, the tongue, and the mandible (i. e. the lower jaw). In phonetics, the tongue is divided into five parts: the tip, the blade, the front, the back and the root. In phonology, the corresponding sounds made with these parts of the tongue are often referred to as **CORONAL** (tip and blade), **DORSAL** (front and back) and **RADICAL** (root).

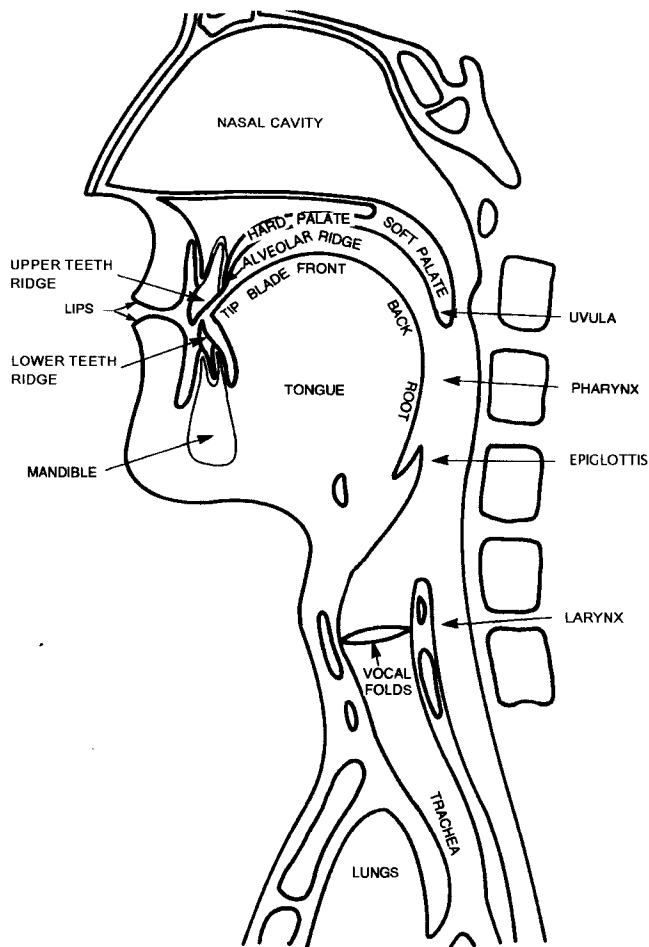


Figure 2.2 The organs of speech (Based on MacMahon, 1990:7)

At the top of the trachea is the larynx, the front of which is protruding in males and known as the “Adam’s Apple”. The larynx contains the VOCAL FOLDS, also known as “vocal cords” or “vocal bands”. The vocal folds (Figure 2.3) are a pair of structure that lies horizontally with their front ends joined together at the back of the Adam’s Apple. Their rear ends, however, remain separated and can move into various positions; inwards, outwards, forwards, backwards, upwards and downwards.

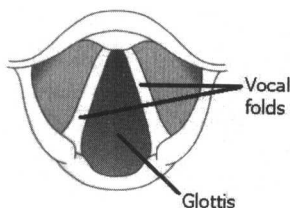


Figure 2.3 The vocal folds (Source: Roca & Johnson, 1999: 15)

For most phonetic purposes, however, it is sufficient to say that the vocal folds are either (a) apart, (b) close together, or (c) totally closed.

- When the vocal folds are apart, the air can pass through easily and the sound produced is said to be VOICELESS. Consonants [p, s, t] are produced in this way.
- When they are close together, the airstream causes them to vibrate against each other and the resultant sound is said to be VOICED. [b, z, d] are voiced consonants.
- When they are totally closed, no air can pass between them. The result of this gesture is the glottal stop [ʔ].

2.1.2 The IPA

In 1886, the Phonetic Teachers' Association was inaugurated by a small group of language teachers in France who had found the practice of phonetics useful in their teaching and wished to popularize their methods. It was changed to its present title of the INTERNATIONAL PHONETIC ASSOCIATION (IPA) in 1897.

One of the first activities of the Association was to produce a journal in which the contents were printed entirely in phonetic transcription. The idea of establishing a phonetic alphabet was first proposed by the Danish grammarian and phonetician Otto Jespersen (1860–1943) in 1886, and the first version of the INTERNATIONAL PHONETIC ALPHABET (the IPA chart) was published in August 1888. Its main principles were that there should be a separate letter for each distinctive sound, and that the same symbol should be used for that sound in any language in which it appears. The alphabet was to consist of as many Roman alphabet letters as possible, using new letters and diacritics only when absolutely necessary. These principles continue to be followed today.

The IPA chart has been revised and corrected several times and is widely used in dictionaries and textbooks throughout the world. The latest version was revised in 1993 and updated in 1996.

THE INTERNATIONAL PHONETIC ALPHABET (revised to 1993, updated 1996)

CONSONANTS (PULMONIC)

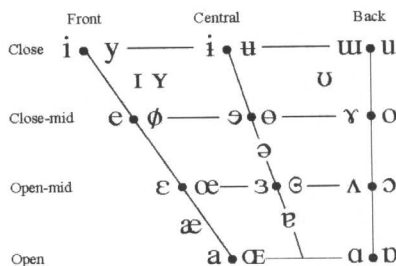
	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b			t d		ʈ ɖ	c ɟ	k ɡ	q ɢ		ʔ
Nasal	m	ɱ		n		ɳ	ɲ	ŋ	ɴ		
Trill	ʙ			r					ʀ		
Tap or Flap				ɾ		ɽ					
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ç ʝ	x ɣ	χ ʁ	ħ ʕ	h ɦ
Lateral fricative				ɬ ɮ							
Approximant		ʋ		ɹ		ɻ	j	ɰ			
Lateral approximant				l		ɭ	ʎ	ʟ			

Where symbols appear in pairs, the one to the right represents a voiced consonant. Shaded areas denote articulations judged impossible.

CONSONANTS (NON-PULMONIC)

Clicks	Voiced implosives	Ejectives
ʘ Bilabial	ɓ Bilabial	ʼ Examples:
ǀ Dental	ɗ Dental/alveolar	ɓ' Bilabial
ǃ (Post)alveolar	ɟ Palatal	ɗ' Dental/alveolar
ǂ Palatoalveolar	ɡ Velar	k' Velar
ǁ Alveolar lateral	ɠ Uvular	s' Alveolar fricative

VOWELS



Where symbols appear in pairs, the one to the right represents a rounded vowel.

OTHER SYMBOLS

ʍ Voiceless labial-velar fricative	ɕ ʑ Alveolo-palatal fricatives
ʋ Voiced labial-velar approximant	ɭ Alveolar lateral flap
ɥ Voiced labial-palatal approximant	ɥ Simultaneous ʃ and x
ʜ Voiceless epiglottal fricative	
ʢ Voiced epiglottal fricative	Affricates and double articulations can be represented by two symbols joined by a tie bar if necessary.
ʡ Epiglottal plosive	

kp ts

DIACRITICS Diacritics may be placed above a symbol with a descender, e.g. ŋ̥

o Voiceless	ṇ ḍ	.. Breathily voiced	ḅ ḁ	ṁ Dental	ṭ ḏ
Voiced	ṣ ṭ	~ Creaky voiced	ḇ ḁ	ṡ Apical	ṭ ḏ
h Aspirated	tʰ dʰ	~ Linguallabial	ṭ ḏ	ṣ Laminar	ṭ ḏ
More rounded	ɔ̹	ʷ Labialized	tʷ dʷ	~ Nasalized	ẽ
Less rounded	ɔ̜	j Palatalized	tʃ dʃ	ṇ Nasal release	d̪ⁿ
Advanced	u̟	ʲ Velarized	tʲ dʲ	ṽ Lateral release	d̪ˡ
Retracted	e̠	ʕ Pharyngealized	tˤ dˤ	ṽ No audible release	d̪̚
Centralized	ẽ	~ Velarized or pharyngealized	ṭ		
x Mid-centralized	ẽ	˦ Raised	e̞ (ɹ = voiced alveolar fricative)		
Syllabic	ɲ̩	˧ Lowered	e̝ (β = voiced bilabial approximant)		
Non-syllabic	ɲ̥	˥ Advanced Tongue Root	e̥		
Rhoticity	ɻ̥ ɻ̥	˩ Retracted Tongue Root	e̥		

SUPRASEGMENTALS

ˈ	Primary stress
ˌ	Secondary stress
ː	Long
ˑ	Half-long
ˑ̌	Extra-short
ˑ̌	Minor (foot) group
ˑ̌	Major (intonation) group
ˑ̌	Syllable break
ˑ̌	Linking (absence of a break)

TONES AND WORD ACCENTS

LEVEL	CONTOUR
ẽ or ˥	Extra high
˥	High
ẽ	Mid
ẽ	Low
ẽ	Extra low
˩	Downstep
˩	Upstep
˩	Rising
˩	Falling
˩	High rising
˩	Low rising
˩	Rising-falling
˩	Global rise
˩	Global fall

In the IPA chart, the sound segments are grouped into CONSONANTS and VOWELS, which will be discussed in detail in the next section. The consonants are then divided into pulmonic and non-pulmonic consonants; PULMONIC sounds are produced by pushing air out of the lungs, as in most circumstances, while NON-PULMONIC sounds are produced by either sucking air into the mouth, in the case of clicks, or closing the glottis and manipulating the air between the glottis and a place of articulation further forward in the vocal tract, as is the case of implosives and ejectives. The vowels are shown their relevant positions in a cross-sectional diagram of the oral cavity.

The “other symbols” are actually a group of consonants that involve more than one place or manner of articulation, which cannot be placed into one of the slots in the consonant chart.

The DIACRITICS are additional symbols or marks used together with the consonant and vowel symbols to indicate nuances of change in their pronunciation. The suprasegmentals are used to represent stress and syllables, whereas the last group of symbols is used to show tonal differences and intonation patterns.

2.2 Consonants and Vowels

In the description of sound segments, a basic distinction is made between consonants and vowels. Consonants are produced “by a closure in the vocal tract, or by a narrowing which is so marked that air cannot escape without producing audible friction”. By contrast, a vowel is produced without such “stricture” so that “air escapes in a relatively unimpeded way through the mouth or nose” (Crystal, 1997: 154). The distinction between vowels and consonants lies in the obstruction of airstream.

As there is no obstruction of air in the production of vowels, the description of the consonants and vowels cannot be done along the same lines.

2.2.1 Consonants

In the production of consonants at least two articulators are involved. For example, the initial sound in *bad* involves both lips and its final segment involves the blade (or the tip) of the tongue and the alveolar ridge. The categories of consonant, therefore, are established on the basis of several factors. The most important of these factors are: (a) the actual relationship between the

articulators and thus the way in which the air passes through certain parts of the vocal tract, and (b) where in the vocal tract there is approximation, narrowing, or the obstruction of air. The former is known as the Manner of Articulation and the latter as the Place of Articulation.

The MANNER OF ARTICULATION refers to ways in which articulation can be accomplished: (a) the articulators may close off the oral tract for an instant or a relatively long period; (b) they may narrow the space considerably; or (c) they may simply modify the shape of the tract by approaching each other.

(1) STOP (or PLOSIVE): Complete closure of the articulators is involved so that the airstream cannot escape through the mouth. It is essential to separate three phases in the production of a stop: (a) the *closing phase*, in which the articulators come together; (b) the *hold* or *compression phase*, during which air is compressed behind the closure; (c) the *release phase*, during which the articulators forming the obstruction come rapidly apart and the air is suddenly released. Technically this third phase is called "PLOSION", hence the name "plosive", but because of the closure involved in the production of plosives, the alternative name "stop" is frequently used to refer to this category of sounds. In English, [p, b, t, d, k, g] are stops.

(2) NASAL: If the air is stopped in the oral cavity but the soft palate is down so that it can go out through the nasal cavity, the sound produced is a NASAL STOP. Otherwise it is an ORAL STOP. Although both types of sounds are stops, phoneticians have retained the term STOP to indicate an oral stop and used the term NASAL to indicate a nasal stop. [m, n, ŋ] are nasals found in both English and Chinese.

(3) FRICATIVE: A fricative is produced when there is close approximation of two articulators so that the airstream is partially obstructed and turbulent airflow is produced. The audible friction defines this class of sounds and thus explains the label "fricative". [f, v, θ, ð, s, z, ʃ, ʒ, h] are fricatives in English.

(4) APPROXIMANT: This is an articulation in which one articulator is close to another, but without the vocal tract being narrowed to such an extent that a turbulent airstream is produced. The gap between the articulators is therefore larger than for a fricative and no turbulence (friction) is generated. In English, this class of sounds include [w, ɹ, j] ([ɹ] often represented as [r] for ease of printing although [r] is a very different sound in IPA). As [j] and [w] can also be analyzed as vowels, it is an important point to note that this category overlaps with that of vowel.

(5) LATERAL: The obstruction of the airstream is at a point along the

center of the oral tract, with incomplete closure between one or both sides of the tongue and the roof of the mouth. As the lateral passage forms a stricture of open approximation, it is called “lateral”. If friction is produced, it is a “lateral fricative”. If no noise of friction is produced, it is a “lateral approximant”. [l] is the only one lateral in English.

(6) TRILL: A trill (sometimes called ROLL) is produced when an articulator is set vibrating by the airstream. A major trill sound is [r], as in *red* and *rye* in some forms of Scottish English. The Spanish “rr” in *perro* “dog” [pero] is a trill [r].

(7) TAP and FLAP: There was a time when tap and flap were considered to be identical categories but more recently leading phoneticians generally agree that it is necessary to distinguish between the two. When the tongue makes a single tap against the alveolar ridge to produce only one vibration, the sound is called a tap ([ɾ]). An example of the tap is the American substitution for [t, d, n] in words such as *city* [sɪɾɪ] and *letter* [lɛɾə]. The flap ([ɾ]) is pronounced with the tip of the tongue curled up and back in a retroflex gesture and then striking the roof of the mouth in the post-alveolar region as it returns to its position behind the lower front teeth. In some forms of American English, the flap occurs in words like *dirty* [dæ:ɾɪ] and *sorting* [sɔ:ɾɪŋ], after *r*-colored vowels in a stressed syllable (Ladefoged, 2006: 171; see 2.2.3 below for *r*-colored vowels).

(8) AFFRICATE: Affricates involve more than one of these manners of articulation in that they consist of a stop followed immediately afterwards by a fricative at the same place of articulation. In English, the “ch[tʃ]” of *church* and the “j[dʒ]” of *jet* are both affricates. The legitimate position of [ts, dz, tr, dr] as affricates has been ejected from English because the first two are used only for suffixes and foreign words, while the latter two are often realized as two sounds in many people’s speech. In Chinese, however, both [tsʰ] and [ts] are legitimate affricates as they appear in words like 错 “wrong” and 做 “do”.

The PLACE OF ARTICULATION refers to the point where a consonant is made. Practically consonants may be produced at any place between the lips and the vocal folds. Eleven places of articulation are distinguished on the IPA chart.

(1) BILABIAL: Bilabial consonants are made with the two lips. In English, bilabial sounds include [p, b, m], as in *pet*, *bet* and *met*. [w], as in *we* and *wet*, involves an approximation of the two lips but is produced slightly differently; the tongue body is raised towards the velum at the same time and, for this reason, in the IPA chart it is treated as a labial-velar approximant, listed in the section of “other symbols”, outside the main consonant chart.

(2) LABIODENTAL: These are made with the lower lip and the upper

front teeth. [f, v], as in *fire* and *via*, are produced by raising the lower lip until it nearly touches the upper front teeth.

(3) DENTAL: Dental sounds are made by the tongue tip or blade (depending on the accent or language) and the upper front teeth. Only fricatives [θ, ð] are found to be strictly dental. Some speakers have the tip of the tongue protruding between the upper and lower front teeth whereas others have it close behind the upper front teeth.

(4) ALVEOLAR: Alveolars are made with the tongue tip or blade and the alveolar ridge. Sounds produced at this place include [t, d, n, s, z, ʃ, ʒ] for English, which is a large group of sounds.

(5) POSTALVEOLAR: These are made with the tongue tip and the back of the alveolar ridge. Such sounds include [ʃ, ʒ], as in *ship* and *genre*. In some systems, this place is also known as PALATO-ALVEOLAR.

(6) RETROFLEX: Retroflex sounds are made with the tongue tip or blade curled back (RETROFLEXED) so that the underside of the tongue tip or blade forms a stricture with the back of the alveolar ridge or the hard palate. In Chinese *Putonghua*, the retroflex fricative [ʂ] is typical as in 书 “book” [ʂu] and 事儿 “thing” [ʂə].

(7) PALATAL: Palatal sounds are made with the front of the tongue and the hard palate. The only English sound made here is [j], as in *yes* and *yet*, but many speakers do use a palatal fricative [ç] for the “h” in *he* or *Hugh*.

(8) VELAR: Velars are made with the back of the tongue and the soft palate. In making such sounds, the back of the tongue is raised to touch the velum. Examples in English are velar stops [k, g], as in *cat* and *get*, and velar nasal [ŋ], as in *sing*. The pronunciation of the Scots word *loch* contains a velar fricative [x] after the vowel. The initial consonant in the Chinese word 和 “and” is also the velar fricative [x].

(9) UVULAR: Uvulars are made with the back of the tongue and the uvula, the short projection of soft tissue and muscle at the posterior end of the velum. In French, the letter “r” is pronounced as the uvular fricative [ʁ], as in *votre* “your”.

(10) PHARYNGEAL: Pharyngeal sounds are made with the root of the tongue and the walls of the pharynx. There are few sounds at this place because of physiological difficulty. Arabic is a language which contains pharyngeal fricatives, [ħ, ʕ].

(11) GLOTTAL: Glottal sounds are made with the two pieces of vocal folds pushed towards each other. The [h] in *hat* and *hold* is often described as a glottal fricative, although some people hold it may be more realistic to interpret it as a

type of vowel. The glottal stop [ʔ] is formed by bringing together the vocal folds, building up pressure behind them as for a stop and then releasing the vocal folds. Because of such a gesture, it is more of the lack of sound than a sound. A glottal stop is often perceived in words like *fat* [fæʔt] and *pack* [pæʔk], and many speakers of English have it for the “t” in words like *button* [bʌʔn], *beaten* [bi:ʔn], and *fatten* [fæʔn].

2.2.2 Vowels

As the vowels cannot be described in the same way as the consonants, a system of cardinal vowels has been suggested to get out of this problem. The CARDINAL VOWELS, as exhibited by the vowel diagram in the IPA chart, are a set of vowel qualities arbitrarily defined, fixed and unchanging, intended to provide a frame of reference for the description of the actual vowels of existing languages. When the cardinal vowels are explained, examples are usually given from various languages to help the student. It should not be thought, however, that the cardinal vowels are actually based on the examples given.

The cardinal vowels are abstract concepts. If we imagine that for the production of [ə] the tongue is in a neutral position (neither high nor low, neither front nor back), the cardinal vowels are as remote as possible from this neutral position. They represent extreme points of a theoretical vowel space; extending the articulators beyond this space would involve friction or contact. The cardinal vowel diagram (or quadrilateral) in the IPA is therefore a set of hypothetical positions for vowels used as reference points.

The front, center, and back of the tongue are distinguished, as are four levels of tongue height:

- the highest position the tongue can achieve without producing audible friction (high or close);
 - the lowest position the tongue can achieve (low or open); and
 - two intermediate levels, dividing the intervening space into auditorily equivalent areas (mid-high or open-mid, and mid-low or close-mid).
- (Crystal, 1997: 155 – 156)

The system defines eight “primary” cardinal vowels, in relation to which a further set of “secondary” cardinal vowels can be defined. By convention, the eight primary cardinal vowels are numbered from one to eight as follows: CV1 [i], CV2 [e], CV3 [ɛ], CV4 [a], CV5 [ɑ], CV6 [ɔ], CV7 [o], CV8 [u]. The first five of these are unrounded vowels while CV6, CV7 and CV8 are rounded ones.

A set of secondary cardinal vowels is then obtained by reversing the lip-

rounding for a given position: CV9 [y], CV10 [ø], CV11 [œ], CV12 [œ̃], CV13 [ɐ̃], CV14 [ʌ], CV15 [ʌ̃], CV16 [u]. Further secondary cardinal vowels can be added to the inventory: vowels which have tongue-positions half-way between [i] and [u] are represented as [ĩ] and [ũ].

The IPA also makes available some more symbols for frequently occurring vowels, including [ɪ, ɪ̃, ʊ, ʊ̃, ɘ, ɘ̃, ɜ, ɜ̃, ɞ, ɞ̃, ɤ, ɤ̃]. The neutral vowel [ə] is often referred to as SCHWA. Note that by convention, where symbols appear in pairs, the one to the right represents a rounded vowel and the one to the left represents an unrounded vowel.

Theoretically, as far as phoneticians are concerned, any segment must be either a vowel or a consonant; if a segment is not a vowel, it is a consonant. The problematic area is that the initial sound in *hot* gives little turbulence, depending on how forcefully it is said, and in *yet* and *wet* the initial segments are obviously vowels (MacMahon, 1990: 10; Crystal, 1997: 154 – 155). To get out of this problem, the usual solution is to say that these segments are neither vowels nor consonants but midway between the two categories. For this purpose, the term “SEMI-VOWEL” is often used.

Languages also frequently make use of a distinction between vowels where the quality remains constant throughout the articulation and those where there is an audible change of quality. The former are known as PURE or MONOPHTHONG VOWELS and the latter, VOWEL GLIDES. In the latter, if a single movement of the tongue is involved, the glides are called DIPHTHONGS. Diphthongal glides in English can be heard in such words as *way* [weɪ], *tide* [taɪd], *how* [haʊ], *toy* [tɔɪ], and *toe* [təʊ]. A double movement produces TRIPHTHONGS. A triphthong is “a glide from one vowel to another and then to a third, all produced rapidly and without interruption” (Roach, 2000: 24). They are really diphthongs followed by the schwa [ə], found in English words like *wire* [waɪə] and *tower* [taʊə].

2.2.3 The Sounds of English

In many cases the pronunciation of English depends on individual speaker's accent and personal circumstances. Although no standard has been established on the way English should be pronounced, one form of English pronunciation is the most common model accent in the teaching of English as a foreign language. It is referred to as RECEIVED PRONUNCIATION (RP), and many people also call it BBC English, Oxford English, or King's/Queen's English. RP originates historically in the southeast of England and is spoken by the upper-middle and upper classes throughout England. It is also widely used in public schools and

spoken by most newsreaders of the BBC network. In the USA, the widely accepted accent used by most educated speakers is often referred to as GENERAL AMERICAN (GA), but the differences between RP and GA in consonants are much less noticeable than those of the vowels. A chart of English consonants is given in Table 2.1.

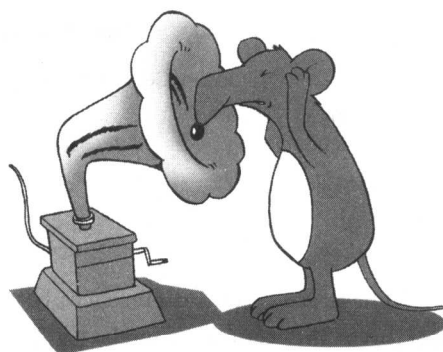


Table 2.1 A chart of English consonants

Manner of Articulation	Place of Articulation							
	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Palatal	Velar	Glottal
Stop/Plosive	p b			t d			k g	
Nasal	m			n			ŋ	
Fricative		f v	θ ð	s z	ʃ ʒ			h
Approximant	(w)			ɹ		j	w	
Lateral				l				
Affricate					tʃ dʒ			

When there are two sounds that share the same place and manner of articulation, they are distinguished by VOICING, the one on the left is voiceless and the one on the right is voiced.

Now the consonants of English can be described in the following way:

- [p] voiceless bilabial stop
- [b] voiced bilabial stop
- [s] voiceless alveolar fricative
- [z] voiced alveolar fricative

When no distinction is made in voicing, only two words will be necessary. Therefore, [m] is a “bilabial nasal”, [j] a “palatal approximant”, and [h] a “glottal fricative”. [l] may be called an “alveolar lateral” or simply a “lateral” (as in English there is only one lateral sound).

Various forms of symbols have been used for the representation of English vowels by different writers and, in this book we will follow that of Wells (2000) for the transcription of RP vowels, shown in Table 2.2. Remember that this is by no means a reproduction from the IPA chart. Instead, it is a modified version based on the IPA for making things easier.

Table 2.2 English vowels (RP)

	Front	Central	Back	Diphthongs:					
High	i:		u:	eɪ	aɪ	aʊ	ɔɪəʊ	ɪə	ʊə
	ɪ		ʊ						
Mid	e	ə:ə	ʌə:						
Low	æ		ɑ:ɒ						

There are certain differences between the qualities of vowels in RP and GA. Notably, the central vowels [ə, ɜ] are *r*-COLORED or RHOTIC for GA, transcribed as [ɜ̣] and [ɜ̤], respectively. It means that they involve curling the tip of the tongue up in a gesture of retroflexion and the phenomenon is known as *r*-COLORING or RHOTICITY. Another major difference is that in GA [ɑ] is used where it is [ɒ] in RP, and [æ] often replaces [ɑ:] in RP. Table 2.3 shows the actual RP and GA vowels, with details of their differences from the IPA vowels shown by diacritics.

Several things need to be explained here. Firstly, the idea of TENSENESS is introduced to indicate the difference between [i] and [ɪ], [ə] and [ɜ], etc. In the traditional classification of English vowels, they were said to be different in length, thus noting them as [i:] and [ɪ], [ə:] and [ɜ], and so on. Later, however, it was argued that they were not just different in length but they were simply different sounds. As vowels tend to be shorter before voiceless consonants, the length of [ɪ] in *bid* is about the same as that of [i] in *beat*. The difference in quality is more prominent: [i] and [ɪ] are simply different sounds, the former being pronounced with more tension. Therefore, many people simply use the different symbols to indicate the difference in quality between these pairs of sounds and ignore the length symbol [:].

Table 2.3 Classification of RP and GA pure vowels

	Front		Central		Back			
	Unrounded				Rounded		Unrounded	
	Tense	Lax	Tense	Lax	Tense	Lax	Tense	Lax
High	i _ɹ	ɪ			u _ɹ	ʊ		
Mid		e _ɹ , ɜ _ɹ	ɜ _ɹ , ɝ _ɹ	ə _ɹ , ɝ _ɹ	ɔ _ɹ , ɔ̃ _ɹ			ʌ _ɹ
Low		æ		ɐ		ɒ _ɹ	ɑ _ɹ	

(Source: Roca & Johnson, 1999: 190. Note that where symbols appear in pairs, the one to the right represents the GA counterpart.)

Secondly, the low central vowel [ɐ] is often used in present-day RP for the vowel in words like *but*, *mum* or *up*, instead of the more traditional [ʌ]. There are also other changes in the RP, including a lower position for [æ] to the quality of CV4 [ɑ], the use of [ʌɪ] for [aɪ], and [ɛɪ] for [eə].

Thirdly, diacritics can be used to show the nuances of differences between the actual vowel qualities in English and the hypothetical vowel qualities in the cardinal vowel system. For example, the [i] in English is a little lower than CV1 and the vowel in *bed* is a little lower than CV2 for RP and a little higher than CV3 for GA. This explains why both [e] and [ɛ] are found in use for the phonetic transcription of English. Similarly, [ɔ] is pronounced at a slightly higher position and is more rounded in RP than in GA.

As a result, the description of English vowels needs to fulfill four basic requirements:

- the height of tongue raising (high, mid, low);
- the position of the highest part of the tongue (front, central, back);
- the length or tenseness of the vowel (tense vs. lax or long vs. short), and
- lip-rounding (rounded vs. unrounded).

We can now describe the English vowels in this way:

- [i:] high front tense unrounded vowel
- [u] high back lax rounded vowel
- [ə] mid central lax unrounded vowel
- [ɒ] low back lax rounded vowel

2.3 From Phonetics to Phonology

2.3.1 Coarticulation and Phonetic Transcriptions

So far we have been investigating how individual sound segments are articulated, but speech is a continuous process, so the vocal organs do not move from one sound segment to the next in a series of separate steps (Crystal, 1997: 158). Rather, sounds continually show the influence of their neighbors. For example, if a nasal consonant (such as [m]) precedes an oral vowel (such as [æ] in *map*), some of the nasality will carry forward so that the vowel [æ] will begin with a somewhat nasal quality. This is because in producing a nasal the soft palate is lowered to allow airflow through the nasal tract. To produce the following vowel [æ], the soft palate must move back to its normal position. Of course it takes time for the soft palate to move from its lowered position to the

raised position. This process is still in progress when the articulation of [æ] has begun. Similarly, when [æ] is followed by [m], as in *lamb*, the velum will begin to lower itself during the articulation of [æ] so that it is ready for the following nasal.

When such simultaneous or overlapping articulations are involved, we call the process COARTICULATION. If the sound becomes more like the following sound, as in the case of *lamb*, it is known as ANTICIPATORY COARTICULATION. If the sound shows the influence of the preceding sound, it is PERSEVERATIVE COARTICULATION, as is the case of *map*.

The fact that the vowel [æ] in *lamb* has some quality of the following nasal is a phenomenon we call NASALIZATION. The IPA chart contains a set of diacritics for the purpose of transcribing the minute difference between variations of the same sound. To indicate that a vowel has been nasalized, we add a curved line to the top of the symbol [æ], as [æ̃]. By the same token, we can use these diacritics for recording other variations of the same sound. Take [p] for example, it is ASPIRATED in *peak* and UNASPIRATED in *speak*. This aspirated voiceless bilabial stop is thus indicated by the diacritic^h, as [p^h], whereas the unaspirated counterpart is transcribed as [p].

For most purposes, however, it is not necessary to indicate such variations of a sound every time. And we often use the common symbol [r] for the more unusual symbol [ɹ]. When we use a simple set of symbols in our transcription, it is called a BROAD TRANSCRIPTION. Thus the use of more specific symbols to show more phonetic detail is referred to as a narrow transcription. Both are phonetic transcriptions so we put both forms in square brackets []. Compare the pairs of transcriptions in Table 2.4.

Table 2.4 Broad and narrow transcriptions of English words

Word	Broad transcription	Narrow transcription	Phonetic detail
help	[help]	[heɪp]	Velarization
play	[pleɪ]	[p ^h leɪ]	Aspiration, devoicing
tenth	[tenθ]	[t ^h ɛnθ]	Aspiration, nasalization, dentalization
button	[bʌtn]	[bʌp̚n]	Glottalization, syllabification

2.3.2 Phonemes

Phonology is not specifically concerned with the physical properties of the speech production system. In the study of coarticulation in English, for

example, it is often said that the articulation of the [t] sounds in the words *tea* and *too* differ from each other slightly. In the [t] of *tea* the tongue is brought towards the front of the mouth in comparison with the [t] of *too*, because the front vowel [i:] of *tea* drags the tongue slightly further forward in the mouth than the back vowel [u:] of *too*. In fact, it is virtually impossible to pronounce a clear and pure [i:] type vowel immediately after the kind of [t] sound found in *too*. Phoneticians are concerned with how these two [t]'s differ in the way they are pronounced while phonologists are interested in the patterning of such sounds and the rules that underlie such variations.

As Crystal (1997: 162) points out, "phonological analysis relies on the principle that certain sounds cause changes in the meaning of a word or phrase, whereas other sounds do not". A simple methodology to demonstrate this is to take a word, replace one sound by another, and see whether a different meaning results. For instance, the word *tin* in English consists of three separate sounds, each of which can be given a symbol in a phonetic transcription, [tɪn]. If we replace [t] by [d], a different word results: *din*. [t] and [d] are thus important sounds in English, because they enable us to distinguish *tin* from *din*, *tie* from *die*, and many more word pairs. Similarly, [i:] and [ɪ] can be shown to be important units too.

This technique, called the MINIMAL PAIRS test, can be used to find out which sound substitutions cause differences of meaning. For English, it leads to the identification of over 40 "important" units, called PHONEMES. Phonemes are transcribed with the IPA symbols, but within slant lines instead of square brackets /p/, /t/, /e/, etc. Some of the minimal pairs for English vowel phonemes are shown in Table 2.5.

Table 2.5 Some of the minimal pairs for English vowel phonemes

Vowels			
/i:/ - /ɪ/	beat - bit	/æ:/ - /eɪ/	girl - gale
/ɪ/ - /ε:/	bit - bet	/eɪ/ - /aɪ/	tale - tile
/ε:/ - /æ:/	bet - bat	/aɪ/ - /ɔɪ/	tile - toil
/æ:/ - /ʌ/	bat - but	/ɔɪ/ - /əʊ/	toil - toll
/ʌ/ - /ɑ:/	hut - heart	/əʊ/ - /aʊ/	tone - town
/ɑ:/ - /ɒ/	heart - hot	/aʊ/ - /ɪə/	how - here
/ɒ/ - /ɔ:/	pot - port	/ɪə/ - /eə/	here - hair

续表

/ɔ:/ - /ʊ/	port - put	/eə/ - /ʊə/	pair - poor
/ʊ/ - /u:/	full - fool	/ʊə/ - /i:/	poor - pea
/u:/ - /ɜ:/	cool - curl		

(Based on Crystal, 1997: 162)

The word PHONEME simply refers to a “unit of explicit sound contrast”: the existence of a minimal pair automatically grants phonemic status to the sounds responsible for the contrasts (Roca & Johnson, 1999: 53). A linguistic system is built on the idea of contrasts. By selecting one type of sound instead of another we can distinguish one word from another (Spencer, 1996: 3).

Languages differ in the selection of contrastive sounds. In English, for example, the distinction between aspirated [p^h] and unaspirated [p] is not phonemic. They both belong to the same phoneme /p/ but are realized as different phonetic sounds conditioned by different positions. Compare the words *peak* and *speak*, for instance. The /p/ in *peak* is aspirated, phonetically transcribed as [p^h] while the /p/ in *speak* is unaspirated, phonetically [p]. In Chinese, however, the distinction between /p/ and /p^h/ is phonemic so that 宾 “guest” and 拼 “to piece together” are transcribed as /pin/ and /p^hin/ respectively. The difference between the *pinyin* symbols *ban* and *pis* is not the difference of voicing but the difference of aspiration - there is no voiced [b] in Chinese *Putonghua*.

By convention, PHONEMIC TRANSCRIPTIONS are placed between slant lines (/ /) while phonetic transcriptions are placed between square brackets ([]). In phonetic terms, phonemic transcriptions represent the “broad” transcriptions. In this sense, “broad” and “phonemic” transcriptions coincide, so there is good reason for dictionaries to use either slant lines or square brackets as they are normally phonemic and “broad”. Once phonetic detail is given, however, square brackets should be used to embrace the phonetic symbols.

2.3.3 Allophones

English dictionaries usually transcribe the words *peak* and *speak* as /pi:k/ and /spi:k/ respectively. However, when the two words are actually pronounced, we know that in English there is a rule that /p/ is unaspirated after /s/ but aspirated in other places. To bring out the “phonetic” difference, an aspirated sound is transcribed with a raised “h” after the symbol of the sound so a phonetic transcription for *peak* is [p^hi:k] and that for *speak* is [spi:k].

In this example, [p, p^h] are two different PHONES and are variants of the phoneme /p/. Such variants of a phoneme are called ALLOPHONES of the same phoneme. In this case the allophones are said to be in COMPLEMENTARY DISTRIBUTION because they never occur in the same context: [p] occurs after [s] while [p^h] occurs in other places. We can represent this rule as:

(1) /p/ → [p] / [s] _____
[p^h] elsewhere

(Note: "_____" is the position in which /p/ appears.)

This phenomenon of variation in the pronunciation of phonemes in different positions is called ALLOPHONY or ALLOPHONIC VARIATION. Another example of allophony in English is the phoneme /l/. We all know that it is pronounced differently in *lead* and *deal*, where in the second case the tongue is curled a little backwards towards the velum (VELARIZATION). We often call this "dark l" and use the symbol [ɫ] in phonetic (or narrow) transcription. [l], as pronounced in *lead*, is called "clear l". Consequently, *lead* is transcribed as [li:d] and *deal* as [di:ɫ] phonetically. The rule seems very simple; the phoneme /l/ is pronounced as [l] before a vowel and as [ɫ] after a vowel. They are again in complementary distribution. It can be represented as:

(2) /l/ → [l] / _____ V
[ɫ] / V _____

But things with /l/ are not so easy; in a word like *telling*, where there is a vowel both before and after -ll-, how do we decide whether the phoneme /l/ is pronounced as before a vowel or after a vowel? This will become clear later in this chapter, but to say that [p, p^h] belong to the phoneme /p/ and [l, ɫ] belong to the phoneme /l/ greatly reduces the number of phonemes in English the four sounds are attributed to only two phonemes. There are also other cases of allophony and the student can start thinking about what others exist as allophones in English at this stage.

Not all the phones in complementary distribution are considered to be allophones of the same phoneme, however. There is another restriction for phones to fall into the same phoneme; they must be phonetically similar. PHONETIC SIMILARITY means that the allophones of a phoneme must bear some phonetic resemblance. For example, [l, ɫ] are both lateral approximants, and they only differ in places of articulation; [p, p^h] are both voiceless bilabial stops differing only in aspiration. In either case, the allophones are both phonetically similar and in complementary distribution.

Sometimes a phoneme may also have FREE VARIANTS. For example, the final consonant of *cup* may not be released by some speakers so there is no audible

sound at the end of this word. In this case, it is the same word pronounced in two different ways: [kʰʌpʰ] and [kʰʌpʰ̚], with the diacritic “̚” indicating “no audible release” in IPA symbols, i. e. the sound is not actually heard. The difference may be caused by dialect or personal habit, instead of by any distribution rule. Such a phenomenon is called FREE VARIATION. Free variation is often found in regional differences. For example, most Americans pronounce the word *either* as [iːðə̚] whereas most British people say [aɪðə̚]. Individual differences may also determine the use of [dɪrekʃn] or [daɪrekʃn] for the word *direction*.

2.4 Phonological Processes, Phonological Rules and Distinctive Features

2.4.1 Assimilation

In this section we will introduce some more ideas of phonology. Let us begin by looking at the following sets of words. Consider their pronunciation in each case.

Ex. 2-1

- | | |
|--------------|------------|
| a. cap [kæp] | can [kæ̃n] |
| b. tap [tæp] | tan [tæ̃n] |

Ex. 2-2

- | | |
|--------------------|----------------|
| a. tent [tɛnt] | tenth [tɛnθ̚] |
| b. ninety [naɪnti] | ninth [naɪnθ̚] |

Ex. 2-3

- | | |
|-----------------|-------------|
| a. since [sɪns] | sink [sɪŋk] |
| b. mince [mɪns] | mink [mɪŋk] |

In both ex. 2-1a and 2-1b, the words differ in two sounds. The vowel in the second word of each pair is “nasalized” because of the influence of the following nasal consonant. In ex. 2-2, the nasal /n/ is “dentalized” before a dental fricative. In ex. 2-3, the alveolar nasal /n/ becomes the velar nasal [ŋ] before the velar stop [k]. In this situation, NASALIZATION, DENTALIZATION, and VELARIZATION are all instances of ASSIMILATION, a process by which one sound takes on some or all the characteristics of a neighboring sound.

Assimilation is a phonological term, often used synonymously with coarticulation (2.3.1), which is more of a phonetic term. Similarly, there are

two possibilities of assimilation: if a following sound is influencing a preceding sound, we call it **REGRESSIVE ASSIMILATION**; the converse process, in which a preceding sound is influencing a following sound, is known as **PROGRESSIVE ASSIMILATION** (Spencer, 1996: 47). All our examples in ex. 2-1~2-3 are instances of “regressive assimilation”. As Ladefoged (2006: 109) observed, “anticipatory coarticulation is by far the most common cause of assimilation in English”.

Assimilation can occur across syllable or word boundaries (Clark & Yallop, 1995: 89), as shown by the following:

Ex. 2-4

- a. pan[ŋ]cake
- b. sun[ŋ]glasses

Ex. 2-5

- a. you can[ŋ] keep them
- b. he can[ŋ] go now

Studies of English fricatives and affricates have shown that their voicing is severely influenced by the voicing of the following sound. The five pairs of English fricatives and affricates are listed in (3).

(3) f, v; θ, ð; s, z; ʃ, ʒ; tʃ, dʒ

Examples in ex. 2-6 show how fricatives and affricates in English may be assimilated in voicing:

Ex. 2-6

- | | | | |
|--------------------|---------------|---|---------------|
| a. five past | [faɪvpaːst] | → | [faɪfpaːst] |
| b. love to | [lʌvtə] | → | [lʌftə] |
| c. has to | [hæztə] | → | [hæstə] |
| d. as can be shown | [əzkənbiʃəʊn] | → | [əskənbiʃəʊn] |
| e. lose five-nil | [luːzfaɪvnɪl] | → | [luːsfaɪvnɪl] |
| f. edge to edge | [ədʒtəedʒ] | → | [etʃtəedʒ] |

The first column of symbols shows the way these phrases are pronounced in slow or careful speech while the second column shows how they are pronounced in normal, connected speech. Investigations into other sounds reveal that **DEVOICING**, a process by which voiced sounds become voiceless, in such contexts does not occur with other sounds, such as stops and vowels (Spencer, 1996: 46-49).

These changes exhibit **PHONOLOGICAL PROCESSES** in which a **TARGET** or **AFFECTED SEGMENT** undergoes a structural change in certain **ENVIRONMENTS** or **CONTEXTS**. In each process the change is conditioned or triggered by a following sound or, in the case of progressive assimilation, a

preceding sound. Consequently, we can say that any phonological process must have three aspects to it: (a) a set of sounds to undergo the process; (b) a set of sounds produced by the process; (c) a set of situations in which the process applies (*ibid.* : 46).

We can represent the process by means of an arrow:

(4) /v/ → [f]

Our data have shown that this does not only apply to /v/ but also to other fricatives, like /z/ and /dʒ/. Therefore, we can make a more general rule to indicate that voiced fricatives are transformed into voiceless fricatives before voiceless segments:

(5) voiced fricative voiceless → / _____ voiceless

(*ibid.* : 47)

This is a PHONOLOGICAL RULE. The slash (/) specifies the environment in which the change takes place. The bar (called the FOCUS BAR) indicates the position of the target segment. So the rule reads: *A voiced fricative is transformed into the corresponding voiceless sound when it appears before a voiceless sound.* Nasalization, dentalization, and velarization are also typical phonological processes that can be represented by the following rules:

(6) *Nasalization rule*

[- nasal] → [+ nasal] / _____ [+ nasal]

(7) *Dentalization rule*

[- dental] → [+ dental] / _____ [+ dental]

(8) *Velarization rule*

[- velar] → [+ velar] / _____ [+ velar]

2.4.2 Epenthesis, Rule Ordering and the Elsewhere Condition

An interesting case is the indefinite article *a/an* in English. Consider the following:

Ex. 2 - 7

a. a hotel, a boy, a use, a wagon, a big man, a yellow rug, a white house

b. an apple, an honor, an orange curtain, an old lady

All the words begin with *a* in ex. 2 - 7a while *an* is used in ex. 2 - 7b. We know that *an* is used when the following word begins with a vowel sound. How do we capture this in phonological representation? We should notice that it is the lack of a consonant between vowels that requires the nasal [n] to be added to the article *a*. For that matter, we treat the change of *a* to *an* as an insertion of a nasal sound. Technically, this process of insertion is known as EPENTHESIS. We can formulate

this rule as (with $\emptyset$ indicating an empty position and V a vowel):

(9) $\emptyset \rightarrow [n] / [\emptyset] ______ V$

Now let us examine a more complex phenomenon. We know that in English nominal plural forms are regular in most cases. The regular plural pattern, however, is highly dependent on the phonological environment. Look at the following forms:

Ex. 2-8

a. desk	[desk]	desks	[desks]
b. chair	[tʃeə]	chairs	[tʃeəz]
c. box	[bɒks]	boxes	[bɒksəz]

We see that the plural suffix, $-(e)s$ in written form, is pronounced in three different ways: [s], [z], and [əz]. Notice that the third person singular present tense verb forms have exactly the same pattern. Our task here is to work out what rule governs this variation.

It is easy to see that unlike many of the examples we have seen earlier in this chapter, these variants cannot be governed by the following sounds as there are not any. Then what features of the sounds on the left attribute to this change? In ex. 2-9, we see more examples of plural forms:

Ex. 2-9

a. tables	-z	b. seats	-s
c. benches	-əz	d. stools	-z
e. couches	-əz	f. sofas	-z
g. divans	-z	h. mattresses	-əz
i. quilts	-s	j. wardrobes	-z
k. beds	-z	l. hammocks	-s
m. rugs	-z	n. cushions	-z
o. bridges	-əz	p. bunks	-s
q. pillows	-z	r. ash	-əz
s. cupboards	-z	t. cases	-əz

Now we sort them according to the plural variants (with transcription for the singular forms only):

Ex. 2-10

a. -z	tables	/teɪbl/	stools	/stu:l/
	sofas	/səʊfə/	divans	/dɪvæn/
	wardrobes	/wɔ:drəʊb/	beds	/bed/
	rugs	/rʌg/	cushions	/kʊʃn/
	pillows	/pɪləʊ/	cupboards	/kʌbəd/
b. -s	seats	/si:t/	quilts	/kwɪlt/

	hammocks	/hæmək/	bunks	/bʌŋk/
c. -əz	benches	/bentʃ/	couches	/kaʊtʃ/
	mattresses	/mætʃəs/	cases	/keɪs/
	bridges	/brɪdʒ/	ashes	/æʃ/

[z] appears after these sounds: /l, ə, n, b, d, g, əʊ/, [s] is found after /t, k/, and [əz] occurs after /s, ʃ, tʃ, dʒ/. If we examine more words, we find that they follow the same kind of pattern. It is easy to see that (a) [s] is used when the preceding sound is a voiceless consonant other than /s, ʃ, tʃ/, (b) [z] occurs when the preceding sound is a vowel or a voiced consonant other than /z, ʒ, dʒ/, and (c) [əz] follows any of the following sounds: /s, z, ʃ, ʒ, tʃ, dʒ/. This group of fricatives and affricates, which often behave in the same way, is traditionally known as SIBILANTS.

Now, the three variants of the plural form in English are applied in the following fashion:

(10) a. The [s] appears after voiceless sounds.

b. The [z] appears after voiced sounds.

c. The [əz] appears after sibilants.

(Note: Voiced sounds include vowels.)

In order to bring out the rule that governs this pattern, we need to say that [z], which occurs in the most cases, is the basic form and the other two forms are derived from it. The basic form is technically known as the UNDERLYING FORM or UNDERLYING REPRESENTATION (UR). The derived form is the SURFACE FORM or SURFACE REPRESENTATION (SR). Therefore, [s] is a matter of devoicing and [əz] is a case of epenthesis. The two rules are represented as follows:

(11) /z/ → [s] / [- voice, C] _____ (Devoicing)

(12) ø → [ə] / [+ sibilant] _____ [z] (Epenthesis)

With these two rules at hand, see if we can derive the correct SRs from the URs. Consider the derivations in (13):

(13) a. //si:t + z//	b. //bed + z//	c. //keɪs + z//
s	N/A	s
N/A	N/A	N/A
si:ts	bedz	keɪss
		Output

(Note: N/A = not applicable, where the rule does not apply.)

In Step 1 devoicing is applied, giving [s] for [si:ts] for *seats* and [keɪss] for *cases* because they both end in voiceless consonants. When we come to Step 2 there is nowhere to add [ə] as neither (a) nor (c) contains a [z]-ending [z] has been changed to [s] for *cases*. The epenthesis rule cannot apply to [s]! Clearly,

something has gone wrong. The problem is that devoicing will always apply to /z/ after a voiceless consonant and then there is never the environment for epenthesis to apply. The obvious solution is to say that epenthesis will always apply before devoicing, as in (14):

(14) a. //si:t + z//	b. //bed + z//	c. //keɪs + z//	
N/A	N/A	ə	Epenthesis (Step 1)
s	N/A	N/A	Devoicing (Step 2)
sɪts	bɛdz	kɛɪsəz	Output

This gives us the correct surface forms. Thus, in this particular case, we have to follow a specially stipulated RULE ORDERING (Spencer, 1999: 54). If this order is disturbed, incorrect derivation will result. This rule ordering is however not always needed, as it falls to a much more general rule of language, the ELSEWHERE CONDITION, stated simply as (15):

(15) *The Elsewhere Condition*

The more specific rule applies first.

With the Elsewhere Condition, it is not necessary to discuss the rule ordering every time it occurs.

2.4.3 Distinctive Features

As seen from the discussion of IPA symbols, speech sounds are divided up into classes according to a number of properties. For example, consonants are described according to their places and manners of articulation, and vowels are described according to their frontness or backness. The idea of DISTINCTIVE FEATURES was first developed by Roman Jakobson (1896—1982) in the 1940s as a means of working out a set of phonological contrasts or oppositions to capture particular aspects of language sounds. Since then several versions have been suggested, so if you read books on phonology published at different times, expect to find different sets of features.

Some of the major distinctions include [consonantal], [sonorant], [nasal] and [voiced]. The feature [consonantal] can distinguish between consonants and vowels, so all consonants are [+consonantal] and all vowels [−consonantal]. [sonorant] distinguishes between what we call OBSTRUENTS (stops, fricatives and affricates) and SONORANTS (all other consonants and vowels), with obstruents being [−sonorant] and others [+sonorant]. [nasal] and [voiced] of course distinguish nasal (including nasalized) sounds and voiced sounds respectively.

These are known as BINARY FEATURES because we can group them into two categories: one with this feature and the other without. Binary features have

two values or specifications denoted by “+” and “-” so voiced obstruents are marked [+voiced] and voiceless obstruents are marked [-voiced].

The place features are not binary features they are divided up into four values: [PLACE: Labial], [PLACE: Coronal], [PLACE: Dorsal], and [PLACE: Radical], which are often written in shorthand forms as [Labial]p, [Coronal]p, [Dorsal]p, and [Radical]p.

In contemporary phonology, some twenty such features are used to group speech sounds from different angles. Table 2.6 shows the feature specifications for English consonant phonemes.

Table 2.6 Distinctive feature matrix for English consonant phonemes

	p	b	t	d	k	g	f	v	θ	ð	s	z	ʃ	ʒ	h	m	n	ŋ	w	l	r	j	tʃ	dʒ
consonantal	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	-	+	+
approximant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	-	-
sonorant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	-	-
continuant	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	-	-	-	+	+	+	+	-	+
strident							+	+	-	-	+	+	+	+	-								+	+
nasal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	-	-	-	-	-
lateral	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	-
voiced	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	+	+	+	+	+	+	-	+
[PLACE]	L	L	C	C	D	D	L	L	C	C	C	C	C	C	R	L	C	D	L	C	C	C	C	C
anterior				+	+				+	+	+	+	-	-			+		+	+	-	-	-	-

(Source: Radford, et al. 1999: 141. Note that 1) L = Labial, C = Coronal, D = Dorsal, R = Radical. 2) “- / +” is a special type of *feature value* for an affricate indicating that the sound has both specifications, one after another. 3) “anterior” is used to separate “coronal” into two further regions.)

A useful feature for consonants not found in Table 2.6 is [$\pm$ spread] (for “spread glottis”), which distinguishes between “aspirated” and “unaspirated” voiceless obstruents. Aspirated sounds are [+spread] and unaspirated sounds are [-spread]. Now we can represent the rule that governs the unaspiration of /p/ after [s] in 2.3.3 (1) in terms of features, as in (1a):

$$(1a) \begin{bmatrix} \text{-cont} \\ \text{-voice} \end{bmatrix} \rightarrow [-\text{spread}] / [s] ______ \\ \rightarrow [+ \text{spread}] \text{ in other places}$$

This is a more general rule, which also applies to /t/ and /k/. It means that /p, t, k/ ([-voiced, -cont]) are all unaspirated ([-spread]) after [s] and aspirated ([+spread]) in all other positions.

At this level, there is no need to know exactly what each feature value means. It will do as long as you can find out from these tables what features will make a group of sounds distinct from others. Sometimes it is not possible to simply single out one phoneme as phonological rules generally will not affect only one phoneme, but a class of phonemes sharing certain features.

Let us now examine the regular past tense forms in English.

Ex. 2-11

- a. stopped, walked, coughed, kissed, leashed, reached
- b. stabbed, wagged, achieved, buzzed, soothed, bridged
- c. steamed, stunned, pulled
- d. played, flowed, studied
- e. wanted, located, decided, guided

The spelling here is again very simple, with $-(e)d$ added to the base form of the verb, but the pronunciation of these endings are different: in (a) the $-ed$ is pronounced as $[t]$, in (b-d) it is $[d]$, and in (e) it is $[ɪd]$. We can easily recognize the rules behind these variations in pronunciation as:

(16) *The regular past tense form in English is pronounced as $[t]$ when the word ends with a voiceless consonant, $[d]$ when it ends with a voiced sound, and $[ɪd]$ when it ends with $[t]$ or $[d]$.*

The rule can be formulated, in feature form, as:

(17) *The past tense rule in English*

$$\begin{array}{l} /d/ \rightarrow [ɪd] / \left[\begin{array}{l} \text{Coronal} \\ - \text{cont} \\ - \text{nasal} \end{array} \right] \text{_____} \\ \quad \quad \quad [t] \quad / [- \text{voiced}] \text{_____} \\ \quad \quad \quad [d] \quad \text{in other places} \end{array}$$

The features $[C, -\text{cont}, -\text{nasal}]$ are sufficient to separate $[t]$ and $[d]$ from all other consonants. We take $/d/$ as the underlying (phonemic) form because it is the mostly distributed covering all sonorants. $[ɪd]$ is the most specific and therefore must be applied first among the three possibilities, according to the Elsewhere Condition^①.

2.5 Suprasegmentals

SUPRASEGMENTAL FEATURES are those aspects of speech that involve more than single sound segments. The principal suprasegmentals are syllable, stress, tone, and intonation.

2.5.1 The Syllable Structure

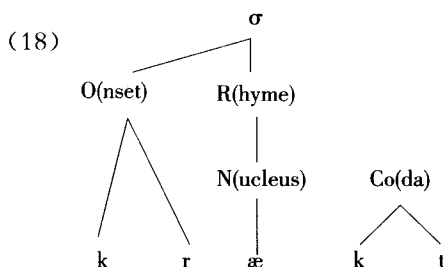
The SYLLABLE is an important unit in the study of suprasegmentals. In

① Note that after the Elsewhere Condition was formulated, the original expression *elsewhere*, as seen in 2.3.3 (1), in the final part of the rule was changed to *in other places*.

English, a word may be MONOSYLLABIC (with one syllable, like *cat* and *dog*) or POLYSYLLABIC (with more than one syllable, like *transplant* or *festival*).

A syllable must have a NUCLEUS or PEAK, which is often the task of a vowel. However, sometimes it is also possible for a consonant to play the part of a nucleus, as in the word *table*, which consists of a syllable [t^heɪ] and a syllable [bɪ̯]. In the second syllable there is only the syllabic consonant [ɪ̯] to function as the nucleus. Consonants [m, n] also have such functions in English, as in *bottom* [bɒtm̩] and *cotton* [kɒtn̩].

When we say that words like *bed*, *dead*, *fed*, *head*, *led*, *red*, *said*, *thread*, *wed* rhyme, we mean that the sounds after the first consonant or consonant cluster are identical. Therefore, we can divide a syllable into two parts, the RHYME (or RIME) and the ONSET. The vowel within the rhyme is the nucleus, with the consonant(s) after it termed the CODA. We can thus represent the SYLLABIC STRUCTURE of the word *cracked* in (18), with the Greek letter σ ("sigma") to represent a syllable.



All syllables must have a nucleus but not all syllables contain an onset and a coda. A syllable that has no coda is called an OPEN SYLLABLE while a syllable with coda is a CLOSED SYLLABLE.

Different languages permit different kinds of syllables. In English, the onset position may be empty or filled by a cluster of as many as three consonants, while the coda position may be filled by as many as four consonants (as in *sixths* [sɪksθs]). For this matter, the English syllable may be represented as (((C)C)C)V((((C)C)C)C). The Chinese *Putonghua* syllable, however, allows at most one consonant in the onset position and only nasals [n, ŋ] in the coda. Thus the *Putonghua* syllable is represented as (C)V(C).

No agreement has been reached as to what forms a syllable. Consequently, the division of syllables in polysyllabic words has to be solved according to some principles. One of these is the MAXIMAL ONSET PRINCIPLE (MOP), which states that when there is a choice as to where to place a consonant, it is put into

the onset rather than the coda (Radford, et al., 1999: 91 – 92). This explains the question of why /l/ in *telling* is pronounced as [l], not [ɫ], as discussed in 2.3.3 (2). Although there are vowels before and after -ll-, by MOP it must go with the second syllable as onset, so the pronunciation is [l] as it should be before the vowel.

2.5.2 Stress

STRESS refers to the degree of force used in producing a syllable. In transcription, a raised vertical line [ˈ] is often used just before the syllable it relates to. A basic distinction is made between stressed and unstressed syllables, the former being more prominent than the latter, which means that stress is a relative notion. At the word level, it only applies to words with at least two syllables. At the sentence level, a monosyllabic word may be said to be stressed relative to other words in the sentence.

The stress pattern in English is no easy matter (see Gimson, 2001: 224 – 235 and Roach, 2000: Chapters 10 & 11 for detailed descriptions). In principle, the stress may fall on any syllable. They also change over history and exhibit regional or dialectal differences. For example, it has been observed that *inˈtegral*, *coˈmmunal*, *forˈmidable* and *conˈtroversy* are becoming the norm whereas *ˈintegral*, *ˈcommunal*, *ˈformidable* and *ˈcontroversy* are often considered conservative (Clark & Colin, 1995: 350 – 351). Speakers of RP and those of GA also differ in their preferences in the stress pattern of these words: *laˈboratory* (RP), *ˈlaboratory* (GA); *ˈdebris* (RP), *deˈbris* (GA); *ˈgarage* (RP), *gaˈrage* (GA).

It has also been observed that stress is sometimes placed on a different syllable for the different grammatical function a word plays. For example, *conˈvict* (v.) – *ˈconvict* (n.), *inˈsult* (v.) – *ˈinsult* (n.), *proˈduce* (v.) – *ˈproduce* (n.), *reˈbel* (v.) – *ˈrebel* (n.), *reˈcord* (v.) – *ˈrecord* (n.).

Notice that alternations of stress often occur between compounds and phrases. A *blackboard* is used in the classroom for teachers to write on whereas a *black board* is any piece of board that is black in color.

For long words, there are often two stressed syllables, one being more stressed than the other. The more stressed syllable is the primary stress, preceded by [ˈ], while the less stressed syllable is known as the secondary stress, which is indicated by a preceding symbol [ˌ]. In the word *ˌepɪfəˈnɒmənl*, for example, the primary stress falls on *-no-* while the secondary stress is on *epi-*.

Sentence stress is much more interesting. In general situations, notional words are normally stressed while structural words are unstressed. Nevertheless, sentence stress is often used to express emphasis, surprise etc. so that in principle

stress may fall on any word or any syllable:

Ex. 2-12

- a. John bought a red bicycle.
- b. 'John bought a red bicycle.
- c. John 'bought a red bicycle.
- d. John bought a 'red bicycle.
- e. John bought a red 'bicycle.

2.5.3 Intonation

INTONATION involves the occurrence of recurring fall-rise patterns, each of which is used with a set of relatively consistent meanings, either on single words or on groups of words of varying length (Cruttenden, 1997: 7). For example, the fall-rise tone in English typically involves the meaning of a contrast within a limited set of items stated explicitly or implicitly. This tone is used in all of the following examples:

Ex. 2-13

- a. (Isn't her name Mary?) No / ^vJenny
- b. The old man didn't come / whereas the ^v young man / did come and actually enjoyed himself
- c. ^vI didn't do it

(Note that “/” indicates an intonation-group boundary and the “^v” mark indicates a fall-rise tone spread over all syllables before the next boundary.)

A difference in tone changes the meaning of a group of words and, when this happens, it is called a difference in intonation. The rising tone at the end of an utterance is often used for asking yes-no questions and showing politeness or surprise, whereas the falling tone sometimes leads to rudeness and abruptness.

2.5.4 Tone

In Chinese tone changes are used in a different way, affecting the meanings of individual words. In Chinese *Putonghua*, a syllable such as [pa] can have at least four meanings depending on the tone on which it is spoken (Table 2.7). More meanings are found if we consider the different characters with the same



pronunciation and tone form. Languages like Chinese are known as TONE LANGUAGES.

Table 2.7 Tones in Putonghua

Putonghua [pɑ]					
Chinese character	Pinyin	Tone symbol	Tone numbers	Tone description	English gloss
八	bā	┐	55	High level	'eight'
拔	bá	┑	35	High rising	'pull out'
靶	bǎ	↘	214	Low falling rising	'target'
坝	bà	↘	51	High falling	'dam'

In Table 2.7, the third column (tone symbol) shows the IPA tone symbol for the word, with the vertical bar at the right of the tone marking the range of the speaker's voice, and the position and shape of the line attached on its left showing the tone change during the word. The fourth column (tone numbers) shows in numbers the movement of the tone contour, with the lowest position being 1 and the highest, 5.

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Lexicon

3.1 What Is Word?

WORD is a unit of expression that native speakers may recognize by intuition, whether it is expressed in spoken or written form. This definition is, perhaps, a bit unclear, because different criteria may identify and define different phenomena. Therefore, it is hard to define “word” scientifically. However, it is agreed that there are three ways of defining “word”, even though these three definitions cannot cover everything.



3.1.1 Three Senses of “WORD”

(1) A physically definable unit

Language is produced as a continuous stretch of speech or writing, but one can still find pauses and blanks every now and then. Thus, word may be seen as a set of sound segments or writing letters between two pauses or blanks. For example,

Ex.3 – 1

Phonological: /it is 'wʌndəfʊl/

Orthographic: *It is wonderful.*

Then there are three words in each case. But in casual speech or writing, one would express the same idea in the following ways, respectively:

Ex. 3 - 2

Phonological: /Its 'wʌndəfʊl/

Orthographic: *It's wonderful.*

Then a problem appears. When liaison and contracted form occur, as in ex. 3 - 2, and they do occur very often in speech and writing, should they be identified as three words or two words?

(2) Word both as a general term and as a specific term

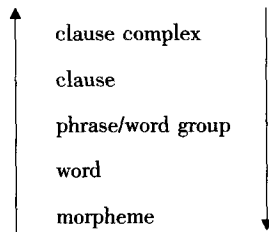
When one is faced with a set of nouns, such as *boy* and *boys*, or a set of verbs, such as *check*, *checks*, *checked*, and *checking*, they are recognized as two words and four words respectively. So WORD may be used both as a general term (then *boy* and *boys* are just one word) and as specific items (*boy* and *boys* are two words). For example,

Ex. 3 - 3

Word 1	"write"	Word 2 "fat"
Word 1:	<i>write</i>	<i>fat</i>
Word 2:	<i>writes</i>	<i>fatter</i>
Word 3:	<i>wrote</i>	<i>fattest</i>
Word 4:	<i>writing</i>	
Word 5:	<i>written</i>	

(3) A grammatical unit

The grammar of a language contains a set of layers, and word is one of them, as displayed in the following figure.



Each of these is called a RANK; and all the ranks constitute a hierarchical scale. Notice that the Word rank is located between Morpheme and Word Group. A word, in this sense, is then a grammatical unit, just like morpheme or clause complex.

3.1.2 Identification of Words

There are other factors which may help us identify words.

(1) Stability

Words are the most stable of all linguistic units, in respect of their internal structure. Generally speaking, it is hard for us to rearrange the internal structure of a complex word into a different order. For example, the word *nothingness* cannot be re-arranged as * *nessnothing*, the latter is an unacceptable word in English; nor can *chairman* be rearranged as * *manchair*. But it is all right for us to rearrange the parts or constituents in a sentence to a certain degree.

Ex. 3-4

- a. *John is a clever boy.*
- a'. *A clever boy John is.*
- b. *The chairman looked at the audience.*
- b'. *The audience looked at the chairman.*

(2) Relative uninterruptibility

By uninterruptibility, we mean that new elements should not be inserted into a word, even when there are several parts in a word. For example, nothing should be inserted in between the three parts of the word *disappointment*: * *dis* (#) *appoint* (#) *ment*. Nor is one allowed to use pauses between the parts of a word (* *dis appoint ment*). In contrast, one could add *Jane* to the coordinating subject of the following sentence.

Ex. 3-5

Paul, (Jane) and Rebecca are my classmates.

In an extreme case, one could insert the adverb "even" between any two parts in the following sentence.

Ex. 3-6

(Even) Paul (even) didn't (even) love (even) Jane (even).

(3) A minimum free form

This was first suggested by Leonard Bloomfield (1933). He advocated that (i) sentence should be treated as "the maximum free form" and (ii) word "the minimum free form". Word is the smallest unit that can be used, by itself, as a complete utterance, as *possibly* in the following exchange of utterances.

Ex. 3-7

- *Is Jane coming this evening?*
- *Possibly.*

Expressions such as *Hi*, *Darling*, *Bother*, *yeah* and others may function in the same way. It is interesting to note that there has been heated discussion with

respect to this statement. Someone objects that not all word-like units would satisfy this criterion. For example, the articles *a* and *the* in English could not stand by themselves. But the advocates cite the following instance as an exception:

Ex. 3 - 8

— *What is missing in a sentence such as 'Dog is barking'?*

— A.

3.1.3 Classification of Words

We can generalize some common features of words, but we can also find this or that difference among various words.

(1) Variable and invariable words

Words can be classified into variable words and invariable words. As for VARIABLE WORDS, they may have inflective changes. That is, the same word may have different grammatical forms but part of the word remains relatively constant.

Ex. 3 - 9

<i>follow</i>	<i>mat</i>
<i>follows</i>	<i>mats</i>
<i>following</i>	
<i>followed</i>	

Among Indo-European languages, one could find more variable words in Latin and Sanskrit, less in German, and the least in English.

INVARIABLE WORDS refer to those words such as *since*, *when*, *seldom*, *through*, *hello*. They do not have inflective endings.

(2) Grammatical words and lexical words

Words can be classified into GRAMMATICAL WORDS and LEXICAL WORDS. Those which mainly work for constructing group, phrase, clause, clause complex, or even text are grammatical words, such as, conjunctions, prepositions, articles, and pronouns. And those which mainly work for referring to substance, action and quality, such as nouns, verbs, adjectives, and adverbs, are lexical words. Lexical words carry the main content of a language while grammatical ones serve to link together different content parts, so lexical words are also known as CONTENT WORDS and grammatical ones as FUNCTION WORDS.

(3) Closed-class words and open-class words

The distinction of grammatical words and lexical words leads to the distinction of "closed-class" words and "open-class" words. A word that belongs

to the CLOSED-CLASS is one whose membership is fixed or limited, such as pronouns, prepositions, conjunctions, articles, and others. One cannot easily add or deduce a new member. However, the OPEN-CLASS is one whose membership is in principle infinite or unlimited. When new ideas, inventions, or discoveries emerge, new members are continually and constantly being added to the lexicon. Nouns, verbs, adjectives and many adverbs are all open-class items.

As a matter of fact, the distinction between closed-class words and open-class words is not quite as clear-cut as it seems. Preposition, though a closed-class, is a relatively open one in English. Expressions such as *regarding*, *throughout*, *out of*, *according to*, *with regard to*, *in spite of*, *by means of*, and many others, are now recognized as prepositions or complex prepositions. In respect of open-class items, such as auxiliary verbs, which used to be treated as open-class words, are relatively closed in number.

(4) Word class

All the above classification seems to be general. A more practical way is to classify words either by analyzing their various grammatical, semantic, and phonological properties, or by grouping them into classes according to their formal similarities, such as inflections and distribution. This is close to the notion of PARTS OF

SPEECH in traditional grammar. The classification was first based on classical Latin and Greek analyses, but only into two classes, something like today's subject and predicate. Later, nine word classes were established: they were noun, pronoun, adjective, verb, adverb, preposition, conjunction, interjection, and article. Today, a few more word classes have been introduced into grammar.

i. Particles

PARTICLES include at least the infinitive marker "to" (even though it has the same spelling form as the preposition *to*, it really has nothing in common with *to* or any other word class), the negative marker *not*, and the subordinate units in phrasal verbs, such as *get by* (to continue one's way of life), *do up* (to fasten), *look back* (to remember).

ii. Auxiliaries

AUXILIARIES used to be regarded as verbs. Linguists today tend to define



them as a separate word class rather than verbs, owing to their unique properties. Compare the behaviour of auxiliaries with that of ordinary verbs in the following examples.

Ex. 3 - 10

NEGATION

I can 't come.

** I wantn 't come.*

INVERSION

Is he coming?

** Keeps he coming?*

CODE

I 'll come and so will Bill.

** I intend to come and so intend Bill.*

EMPHASIS

He has come.

** He seems to come.*

iii. Pro-form

In traditional grammar, pronoun is the only word class which can function as a substitute for another item. To be more exact, it refers to the closed sets of items which can be used to substitute for a nominal group or a single noun. In fact, the following items are either wrongly labeled as pronoun or totally neglected:

Ex. 3 - 11

Pro-adjective

Your pen is red. So is mine.

Pro-verb

He knows English better than he did.

Pro-adverb

He hopes he 'll win and I hope so too.

Pro-locative

Jame 's hiding there, behind the door.

In order to refer collectively to the items in a sentence which substitute for other items or constructions, some linguists have advised to regard PRO-FORM as a separate word class.

iv. Determiners

This is a new word class popularly recognized both in British English and American English. It refers to those words which are used before the noun (including its pre-modifiers like adjectives) acting as head of a nominal group, and which determine the kind of reference the nominal group has; for example, whether it is definite (like *the*) or indefinite (like *a(n)*), partitive (like *some*), or universal (like *all*).

According to Quirk, et al. (1985: 253), there are three sub-classes of DETERMINERS: pre-determiners, central determiners, and post-determiners.

Pre-determiners include *all*, *both*, *half*, *double*, *twice*, *three times*, *one-third*, *one-fifth* and the like.

The most common and typical central determiners are the definite and

indefinite articles. Other central determiners are *this*, *that*, *these*, *those*, *every*, *each*, *some*, *any*, *no*, *either*, *neither*, *my*, *our*, *your*, *his*, *her*, *its*, *their*, etc.

Post-determiners include cardinal numerals, ordinal numerals, general ordinals like *next*, *last*, *past*, (*an*) *other*, *additional*; and other quantifiers like *many*, (*a*) *few*, *several*, *much*, *little*, *a lot of*, *plenty of*, *a great deal of*, *a great number of*, etc.

When different sub-classes of determiners occur together, they follow the order of pre-determiners + central determiners + post-determiners. Thus we do not find expressions like * *their all trouble*, * *five the all boys*, but only *all their trouble*, *all the five boys*. Within each sub-class, the members are usually exclusive of each other. So we do not have expressions like * *the this boy*, * *all both girls*. But ordinal numerals and general ordinals may occur before cardinal numerals, such as *in the first two days*, *another three weeks*.

3.2 The Formation of Word

3.2.1 Morpheme and Morphology

We saw in the previous section that some words can be analyzed into smaller components. *Chairman* is made up of *chair* and *man*, *townhall* of *town* and *hall*. Words like *boys*, *checking* and *disappointment* can likewise be further analyzed. They are each made up of *boy* and *-s*, *check* and *-ing*, and *dis-*, *appoint*, and *-ment*. These smaller components are known as morphemes. But they themselves cannot be further analyzed. *Chair* cannot be analyzed into *ch* and *air*. There are no relations between the parts *ch*, *air* and the whole *chair*. So MORPHEME is the smallest unit of language in terms of the relationship between expression and content, a unit that cannot be divided into further smaller units without destroying or drastically altering the meaning, whether it is lexical or grammatical.

The systematic study of morpheme is a branch of linguistics called MORPHOLOGY, which studies the internal structure of words, and the rules by which words are formed. For example, the verb *purify* in English consists of two parts: *pur(e)* and *-ify*, from which one can work out a rule: a new form of verb can be created by adding *-ify* to an adjective. This is a morphological rule that may function to account for the existence, or the formation, of a set of verbs ended with *-ify*, such as *amplify*, *simplify*, *electrify*, or *falsify*. And these constituent parts in each of these verbs are morphemes.

3.2.2 Types of Morphemes

Morphemes can be sub-classified into different types, depending on what criteria you attempt to follow.

(1) Free morpheme and bound morpheme

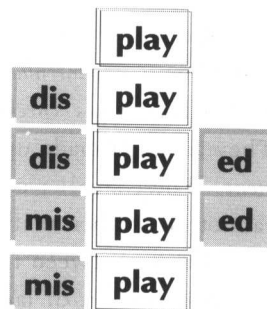
Morphemes can be classified into two types. Those that may occur alone, that is, those which may make up words by themselves, are **FREE MORPHEMES**. For example, *dog*, *nation* and *close* are free morphemes. And such words are called **mono-morphemic words**. So all mono-morphemic words are free morphemes.

Moreover, there are poly-morphemic words, which consist wholly of free morphemes are called **COMPOUNDS**, such as *paymaster*, *moonwalk*, *babysit*, *godfather*, and *sunflower*. In contrast, *-s* in *dogs*, *-al* in *national*, and *dis-* in *disclose*, cannot occur alone. They must appear with at least another morpheme, and are called **BOUND MORPHEMES**. Thus, the word *distempered* has three morphemes, namely, *dis-*, *temper*, and *-ed*, of which *temper* is a free morpheme, *dis-* and *-ed* are two bound morphemes.

(2) Root, affix and stem

Poly-morphemic words other than compounds may be divided into roots and affixes.

ROOT is the base form of a word that cannot be further be analyzed without destroying its meaning. That is to say, it is that part of the word that is left when all the affixes are removed. In the word *internationalism*, after the removal of *inter-*, *-al* and *-ism*, the left part is the root *nation*. Apparently, all words contain a root morpheme.



AFFIX is a collective term for the type of morpheme that can be used only when added to another morpheme (the root or stem), so affix is naturally bound. Affixes in a language are limited in number, and are generally classified into three subtypes, namely, prefix, suffix, and infix, depending on their position around the root or stem of a word. For example,

Ex. 3-12

prefix	<i>para-</i> , <i>mini-</i> , <i>un-</i>
suffix	<i>-ise</i> , <i>-tion</i>

infix

abso-bloominglly-lutely^①

A root may also be free or/and bound. First, free root morphemes are those that can stand by themselves and are the base forms of words, such as *black* in *black*, *blackbird*, *blackboard*, *blacksmith*. A language may contain many morphemes of this type.

Second, there are relatively a few bound root morphemes in English, such as *-ceive* in *receive*, *perceive*, and *conceive*; *-mit* in *remit*, *permit*, *commit*, and *submit*; *-tain* in *retain*, *contain*, and *maintain*; *-cur* in *incur*, *recur*, and *occur*, etc.

Third, a few English roots may have both free and bound variants. For instance, *sleep* (/slɪp/) and *child* (/tʃaɪld/) are free root morphemes, whereas *slep-* in the past tense form of *sleep*, i.e. *slept*, and *child-* in the plural form of *child*, namely *children*, cannot exist by themselves, and are hence bound.

STEM is any morpheme or combination of morphemes to which an inflectional affix can be added, so *friend-* in *friends*, and *friendship-* in *friendships* are both stems. The former shows that a stem may be the same as a root, whereas the latter indicates that a stem may contain a root and one, or more than one, derivational affix.

(3) Inflectional affix and derivational affix

This distinction is sometimes known as a distinction between inflectional morphemes and derivational morphemes. Both are concerned with affixes only: roots cannot be divided into inflectional and derivational ones. But these two types of affix have some differences.

First, inflectional affixes are generally less productive than derivational affixes; they very often only add a minute or delicate grammatical function to the stem, for instance, those inflectional affixes in words such as *toys*, *walks*, *John 's*. Therefore, they serve to produce different forms of a single lexeme. However, derivational affixes are very productive in making new words. For example,

Ex. 3 - 13

recite

recitation

recital

① Infix is an affix which is inserted within a stem. In English this is the nearest form, but in many languages, such as Asian languages, American Indian languages and African languages, it is a normal morphological process. For instance, in Tagalog, the form /um/ 'one who does' is infixed with the form /pilit/ 'effort' to produce /pumilit/, which means 'one who compelled'. (Crystal 1980; 1987)

<i>cite</i>	<i>citation</i>	* <i>cital</i>
<i>revive</i>	* <i>revivation</i>	<i>revival</i>
<i>conserve</i>	<i>conservation</i>	* <i>conserval</i>
<i>deserve</i>	* <i>deservation</i>	* <i>deserval</i>

We cannot find those starred forms in contemporary English dictionaries, but it is possible that some of them might be used someday. So derivational affixes often change the lexical meaning.

Second, inflectional affixes do not change the word class of the word they attach to, such as *flower*, *flowers*, whereas derivational affixes might or might not, such as the relation between *small* and *smallness* for the former, and that between *brother* and *brotherhood* for the latter. Derivational affixes often change the lexical meaning.

Third, whether one should add inflectional affixes or not depends very often on the other factors within the phrase or sentence. For instance, the choice of *likes* in *the boy likes to navigate on the Internet* is determined by the subject *the boy* in the sentence. However, derivational affixes are more often based on simple meaning distinctions. For instance, the choice of *clever* and *cleverness* depends on whether we want to talk about the property “clever” (*clever*) or we want to talk about the state of being clever (*cleverness*).

In English, inflectional affixes are mostly suffixes, which are always word final (e. g. *drums*_s, *walks*_s, *Mary's*_s). But derivational affixes can both be prefixes (e. g. *suburban*, *depart*, *online*) and suffixes (e. g. *slaver*_s, *teacher*_s, *workable*_s).

3.2.3 Inflection and Word Formation

To be more specific, there are two fields that Morphology is concerned with: (i) the study of INFLECTIONS (also called INFLECTIONAL MORPHOLOGY), as exemplified with *bark* + *-s*, and (ii) the study of WORD-FORMATION (often referred to as LEXICAL or DERIVATIONAL MORPHOLOGY), as in *purify* (*pur(e)* + *-ify*).

(1) Inflection. INFLECTION indicates grammatical relations by adding inflectional affixes, such as number, person, finiteness, aspect and case; and when inflectional affixes are added, the grammatical class of the stems (to which they are attached) will not change. For instance,

Ex. 3 - 14

(a) Number:	<i>table</i> / <i>tables</i>
	<i>apple</i> / <i>apples</i>
	<i>car</i> / <i>cars</i>

- (b) Person: finiteness and aspect:
talk / talks / talking / talked
open / opens / opening / opened
shout / shouts / shouting / shouted
- (c) Case:
boy / boy's
John / John's
university / university's

Each set in ex. 3 – 14 constitutes a single paradigm, that is, a set of grammatically conditioned forms all derived from a single root or stem.

(2) Word formation

WORD-FORMATION, in its restricted sense, refers to the process of how words are formed. It can be further divided into two sub-types: the compositional type (COMPOUND) and the derivational type (DERIVATION).

i. Compound

Compound words



The term COMPOUND refers to those words that consist of more than one lexical morpheme, or the way to join two separate words to produce a single form, such as *icecream*, *sunrise*, *paperbag*, *cloakroom*, *cupboard*, *drugstore*, *railway*, *jackknife*, *lap-top*. In compounds, the lexical morphemes can be of different word

classes. For example,

Ex. 3 – 15

(a) Noun compounds

<i>day + break</i>	→ <i>daybreak</i>	(N + V)
<i>play + boy</i>	→ <i>playboy</i>	(V + N)
<i>hair + cut</i>	→ <i>haircut</i>	(N + V)
<i>call + girl</i>	→ <i>callgirl</i>	(V + N)
<i>wind + mill</i>	→ <i>windmill</i>	(N + N)

(b) Verb compounds

<i>brain + wash</i>	→ <i>brainwash</i>	(N + V)
<i>lip + read</i>	→ <i>lipread</i>	(N + V)
<i>baby + sit</i>	→ <i>babysit</i>	(N + V)

(c) Adjective compounds

<i>man + eating</i>	→ <i>maneating</i>	(N + V-ing)
<i>heart + felt</i>	→ <i>heartfelt</i>	(N + V-ed)
<i>duty + free</i>	→ <i>dutyfree</i>	(N + Adj)

(d) Preposition compounds^①*in + to → into**through + out → throughout*

Compounds can be further divided into two kinds: the endocentric compound and the exocentric compound.

The head of a nominal or adjectival endocentric compound is de-verbal; that is, it is derived from a verb. Consequently, it is also called a verbal compound or a synthetic compound. Usually, the first member is a participant of the process verb. Here are some examples:

Ex. 3 - 16

Nouns

*self-control**pain-killer**core meaning**foot-warmer*

Adjectives

*eye-entertaining**bullet-resistant**virus-sensitive**machine washable**sun-tanned*

The exocentric nominal compounds are formed by V + N, V + A, and V + P, whereas the exocentric adjectives come from V + N and V + A.

Ex. 3 - 17

Nouns

*scarecrow**playboy**cutthroat**get-together**sit-down**breakthrough**run-up*

Adjectives

*takehome**lackluster**breakneck**come-hither**beat-up**runaway**walk-in*

Compounds are written in different ways. Some can be written as a single word, such as *wardrobe*, *birdseed*, *bodyguard*, *seashore*, *cardboard*, *daylight*, *countersign*; some can be joined with a hyphen "-", such as *wedding-ring*, *wavelength*, *vintage-point*, *traffic-light*, *spring-clean*, *simple-minded*, *rest-room*, *block-head*, among many others; and some can be written with ordinary space between the two parts, such as *washing machine*, *wedding breakfast*, *treasure trove*, *traffic island*, *clothes moth*, and *counter revolutionary*.

Usually the right-hand member not only determines the category of the

① True compounding is limited to only lexical category words.

whole compound, but also determines the major part of the sense of the compound. In this sense, the right member serves as the head.

ii. Derivation

Different from compounds, DERIVATION shows a relationship between roots and affixes. For example,

Ex. 3 - 18

un + conscious → unconscious
nation + al → national
national + ize → nationalize
nationalize + ation → nationalization

In contrast with inflections, derivations can make the word class of the original word either changed or unchanged. For example,

Ex. 3 - 19

(a) Word class changed

N → V

length + en → lengthen
hospital + ize → hospitalize

N → Adj

un + horse → unhorse
dis + card → discard
fool + ish → foolish
beast + ly → beastly

N → Adj/Adv

delight + ful → delightful
speech + less → speechless
virtue + ous → virtuous

V → N

clock + wise → clockwise
earth + ward → earthward
work + er → worker

V → Adj

pay + ee → payee
inhabit + ant → inhabitant

Adj → N

accept + able → acceptable
adore + able → adorable

Adj → V

mean + ness → meanness
rapid + ity → rapidity

Adj → A

deaf + en → deafen
sweet + en → sweeten
exact + ly → exactly
quick + ly → quickly

(b) Word class unchanged

N → N

*non + smoker → nonsmoker**ex + president → expresident**profit + eer → exprofiteer**book + let → booklet**dis + obey → disobey**un + do → undo**tall + ish → tallish**Il + logical → illogical*

V → V

Adj → Adj

Word forms that come from derivation are relatively large and potentially open. Take the prefix *pre-* for example. One can easily list hundreds of words from any dictionary, such as *preamble*, *pre-arrange*, *precaution*, *precede*, *precedent*, *precept*, *precinct*, *precognition*, *precondition*, *precursor*, among many others. The same is true for words ending with the same suffix, such as *-able* in *readable*, *valuable*, *acceptable*, *distinguishable*, *malleable*, *justifiable*, *salable*, *teachable*, *unanswerable*, and so on. In English, there is usually one productive inflectional affix per word, but there may also arise multiple derivational affixes, such as *monumental*, *transcendental*, *capability*, *musicality*, *accountancy*, *dependency*, *characterization*, *joyfulness*, *silliness*, *effectively*, *beautifully*, *delightfully*, *Americanism*, *egalitarianism*. Of course, some words can carry both prefixes and suffixes, such as *abbreviation*, *abominable*, *bipartisan*, *bigamist*, *continuously*, *contradiction*.

3.2.4 Sememe vs. Morpheme, and Phoneme vs. Morpheme

(1) Sememe vs. morpheme

SEMEME is the smallest component of meaning. For example, the morpheme *-s* has only one sememe: PLURALITY, meaning more than one. ①

As for the relationship between sememe and morpheme, there are five mapping and non-mapping occasions.

① This inflectional use differs from what some linguists called SEMANTIC FEATURE (see Chapter 5). It also differs from that being used as a purely grammatical form that indicates the grammatical AGREEMENT or CONCORD between a noun and a verb, hence Subject and Predicate of the clause, as in *she likes pink*.

i. One morpheme vs. one sememe

There are cases in which one morpheme has only one sememe. For example, the morpheme *-less* has just one sememe *WITHOUT*, as in *fearless*, *careless*, *ceaseless*, *countless*, *doubtless*, *shameless*, *faceless*, *speechless*, *faceless*.

ii. One morpheme vs. more than one sememe

In this case, one morpheme may have two or more than two sememes, such as *a-*. This morpheme has three sememes, as in (i) *arise* and *await*, in which *-a* functions to enhance the meaning of the original senses *rise* and *wait*; (ii) *awash* and *ablush*, in each of which *a-* changes both the semantic and the grammatical categories of *wash* and *blush*, because the latter two morphemes are verbal while the former two are adjective; (iii) *atypical* and *asymmetry*, in each of which *a-* means *no* or *non*.

iii. One sememe vs. more than one morpheme

Of course, there are other morphemes besides *a-* that also indicate the sememe of *no* or *non*, as *e-* in *erostrate* (of a kind of animal with no mouth), *il-* in *illicit*, *ne-* in *neither*, *un-* in *untidy*. This is the third occasion, i. e. one sememe that is expressed with two or more than two morphemes.

iv. Morphemes that have no specific sememe

There are also some morphemes, such as *en-*, that have no specific sememe, but may help change grammatical and semantic categories. For example, when it is added to *joy*, i. e. *enjoy*, the new word differs from the original one both in the sememe of quality vs. event and in the form of adjective vs. verb. The same goes to *cran-*. That is, the lexeme *cranberry* is composed of *cran-* and *berry*. The latter is a free morpheme, but *cran-* does not have any specific sememe to refer to, so it is unlike *blue*, *black* and *cloud* in *blueberry*, *blackberry* and *cloudberry* respectively, each of the latter morphemes has a due sememe. So in this case, the morpheme may be said to have no specific sememe.

v. Function changes in both sememe and morpheme without morpheme change

Likewise, there may also be no morpheme change in a word, but both the grammatical and the semantic categories would change according to the context it occurs. For example, when the root word *run* is chosen in the context of *run a company*, its grammatical and semantic categories are verb and event; but when it goes with *in*, *a* and *short*, as in the preposition phrase *in a short run*, it is no long a verb and event, but a noun and thing, the process of which involves no morpheme addition or variation, but the sememe of the morpheme is changed. There are many such phenomena in English, such as *pro'gress* (verb/event) vs. *'progress* (noun/thing), *fish* (noun/thing) vs. *fish* (verb/event), *fat*

(adjective/quality) vs. *fat* (noun/thing) vs. *fat* (verb/event), among many others.

(2) Morpheme vs. phoneme

Phoneme is the smallest meaningful unit of sound (see Chapter 2) and morpheme is the smallest meaningful unit in grammar (the previous part of this chapter); then is there any correspondence between the two levels of language?

To answer the question, we have to appeal to the "joint venture" of the two levels, that is, MORPHOPHONOLOGY (MORPHONOLOGY) or MORPHOPHONEMICS (MORPHONEMICS). This is a branch of linguistics that refers to the analysis and classification of the phonological factors that affect the morpheme forms, and, correspondingly, the morphological factors that affect the phoneme forms. So, it studies the interrelationship between phonology and morphology. There are several occasions.

i. A single phoneme vs. a single morpheme

A single phoneme may represent a single morpheme, but they are not identical. The phoneme /z/ in /gəʊz/ (*goes*), for example, is also the third-person singular present tense morpheme, but /z/ occurs very often when it has nothing to do with this specific morpheme. Consider the following examples,

Ex. 3 - 20

- | | |
|------------------|--------|
| (a) <i>boys</i> | /bɔɪz/ |
| (b) <i>boy's</i> | /bɔɪz/ |
| (c) <i>raise</i> | /reɪz/ |

In (a), the phoneme /z/ represents a plural morpheme; in (b), it represents the morpheme that means the possessive case. However, in (c), it means nothing at all.

ii. A single morpheme vs. multiple phoneme

Morphemes may also be represented by phonological structures other than a single phoneme. The following examples show that they may be monophonemic, monosyllabic or polysyllabic.

Ex. 3 - 21

Monophonemic	<i>dogs</i>	/dɒgz/
Monosyllabic	<i>love + ly</i>	/lʌv + li/
Polysyllabic	<i>tobacco</i>	/tə + 'bæ + kəʊ/

Thus, the syllabic (phonological) structure of a word and its morphemic (morphological) structure do not necessarily correspond. For example;

Ex. 3 - 22

<i>tell + er</i>	/'tel + 'ə/
<i>big(g) + er</i>	/'bi + gə/

iii. Allophone

Some morphemes have a single form in all contexts, such as *dog*, *bark*, *cat*; but in other instances, a morpheme may have different shapes or phonetic forms. Let us first have a look at the morpheme that expresses plurality in English.

Ex. 3 - 23

<i>map</i>	—	<i>maps</i>	/mæps/
<i>dog</i>	—	<i>dogs</i>	/dɔgz/
<i>watch</i>	—	<i>watches</i>	/wɒtʃɪz/
<i>mouse</i>	—	<i>mice</i>	/maɪs/
<i>ox</i>	—	<i>oxen</i>	/ˈɒksn/
<i>tooth</i>	—	<i>teeth</i>	/tu:θ/
<i>sheep</i>	—	<i>sheep</i>	/ʃi:p/

It is clear that the plural sememe in English can be represented by the voiceless /s/, the voiced /z/, the vowel-consonant structure /ɪz/, the diphthong /aɪ/ found in the irregular form of /maɪs/, the nasal sound /n/ in /ˈɒksn/, the long vowel /i:/ in /ti:θ/ and the zero form /i:/ of /ʃi:p/ and others. Each would be said to be an ALLOMORPH of the plural morpheme.

Thus, morpheme, like phoneme, as held by American structuralists, is an abstract unit, but at a different linguistic level. It consists of a sequence of phonemes and either expresses lexical meaning or helps construct grammatical structure. In morphemic transcription, morphemes are put between braces like { }. Take the plural morpheme for example, it can be expressed in the form of {-s~-z~-ɪz~-aɪ~-i:-~n~-ø}.

It should be noted that some morphemic forms represent different morphemes and thus have different sememes. For example, the morphemic shape -s, as illustrated in ex. 3 - 14, can express plurality (e. g. *tables*, *apples*, and *cars*), person/ finiteness (e. g. *talks*, *opens*, and *shouts*), and case (e. g. *boy's*, *John's*, and *university's*).

iv. Morphemic conditions

Morpheme shapes vary according to both phonological conditions and to the conditions of their own. Hence there are two cases.

(a) Phonologically conditioned

The form or shape of morphemes may be conditioned by phonological factors. Compare the following two sets of words.

Ex. 3 - 24

<i>injustice</i>	<i>imperfect</i>
<i>inefficient</i>	<i>impenetrable</i>
<i>infirm</i>	<i>impossible</i>

The negative morpheme is realized as *in-* or *im-* in the two sets respectively. The reason is very simple, because the change of /n/ (an alveolar nasal) to /m/ (a bilabial nasal) due to /p/ after it. Therefore, the ASSIMILATION of /n/ is said to be conditioned by /p/. Opposite to assimilation, there is DISSIMILATION, which refers to the influence of one sound segment upon the articulation of another, so that the sounds become less alike, or different. For example,

Ex. 3 - 25

<i>gram<u>ma</u>r</i> (O. E.)	→ <i>glam<u>o</u>r</i> (M. E.)
<i>per<u>e</u>grinus</i> (Latin)	→ <i>pil<u>g</u>rim</i>
<i>mar<u>b</u>re</i> (French)	→ <i>mar<u>bl</u>e</i>

In all these examples, one of the phonemes, /r/, dissimilates to /l/ in the course of time, which has changed the morpheme in question.

(b) Morphologically conditioned

Morphemes can also be influenced by morphological factors. In doing so, three requirements should be met.

First, all the allomorphs should have the same sememe, for instance, the plural morpheme {-s ~ -z ~ -ɪz ~ -aɪ ~ -i: ~ -n ~ -ə}.

Second, all the allomorphs should be in COMPLEMENTARY DISTRIBUTION. For instance, the plural morpheme {-n} occurs only with a limited number of words such as *ox*.

Third, allomorphs that have the same sememe should occur in parallel formation. For example,

Ex. 3 - 26

Singular	Plural
<i>ox</i> /ɒks/	<i>ox<u>e</u>n</i> /'ɒks <u>n</u> /
<i>cow</i> /kau/	<i>cow<u>s</u></i> /kau <u>s</u> /

This suggests that /n/ and /z/ have the same functional place in the grammatical structure of the language.

3.3 Lexical Change

Lexical changes are the quickest and easiest for people to notice. Lexical

items such as (i) *Nuke*, *transistor*, *AIDS*, *e-mail*, *on-line*... in science and technology, (ii) *videotape*, *refrigerator*, *deep freeze*, *Coke*,... in our economic life, (iii) *NATO*, *OPEC*, *cold war*, *hot line*, *WTO*... in politics and economics, (iv) *space war*, *H-bomb*, *guided missile*, *supersonic jet*... in military affairs, and (v) *counter culture*, *hippies*, *chairperson*, *uppers*, *downers*... in the cultural field, have all come into existence in the past decades. Even in education, one can find new expressions in circulation such as *underachiever*, *open classroom*, *TA*, *grade-point average*, *CAI*, *pass-fail grading* and others. On the other hand, one can also see that some words are disappearing if the speech community does not use them anymore. For example, many words from Shakespeare's works are out of use today.

As far as new words or expressions are concerned, they are added to English through various processes at the different levels of language.

3.3.1 Lexical Change Proper

New words or expressions are created through the following processes, apart from compound and derivation we discussed in section 3.2.3.

(1) Invention

Technological and economic activities are the most important and dynamic in modern human life, many new lexical items come directly from them, such as *Kodak*, *Coke*, *nylon*, *Xerox*, *Frigidaire*, *granola*, and others to satisfy the new situations.

(2) Blending

BLENDING is a relatively complex form of compounding, in which two words are blended by joining together the initial part of the first word and the final part of the second word, or by only joining the initial parts of the two words. For example,

Ex. 3 - 27

i.	<i>transfer</i> + <i>resister</i>	→	<i>transistor</i>
	<i>smoke</i> + <i>fog</i>		<i>smog</i>
	<i>boat</i> + <i>hotel</i>		<i>boatel</i>
	<i>breakfast</i> + <i>lunch</i>		<i>brunch</i>
	<i>television</i> + <i>broadcast</i>		<i>telecast</i>
ii.	<i>teletprinter</i> + <i>exchange</i>	→	<i>telex</i>
	<i>modulator</i> + <i>demodulator</i>		<i>modem</i>
	<i>analog</i> + <i>computer</i>		<i>anacom</i>
	<i>digital</i> + <i>computer</i>		<i>digicom</i>

Blending can also occur at a higher cognitive level. From the similarity in

the two expressions *she was on the verge of a crackup* and *she was on the verge of breakdown*, the confusion of *crackup* and *breakdown* leads to the coining of *crackdown*. The same is true of *riffle* (*ripple* + *shuffle*), *stample* (*trample* + *stamp on*), and *spinwheels* (*pinwheel* + *spin*). This sort of blending is particularly called FUSION.

(3) Abbreviation

Many English words have come into being through ABBREVIATION in their etymological history. This phenomenon is also called CLIPPING; a new word (as shown in the right column below) is created by

Ex. 3 - 28

i. cutting the final part (or with a slight variation)

<i>advertisement</i>	→	<i>ad</i>
<i>bicycle</i>		<i>bike</i>
<i>fanatic</i>		<i>fan</i>
<i>mathematics</i>		<i>math</i>
<i>professor</i>		<i>prof</i>
<i>television</i>		<i>telly</i>

ii. cutting the initial part

<i>aeroplane</i>	→	<i>plane</i>
<i>helicopter</i>		<i>copter</i>
<i>caravan</i>		<i>van</i>
<i>omnibus</i>		<i>bus</i>
<i>telephone</i>		<i>phone</i>

iii. cutting both the initial and final parts accordingly

<i>influenza</i>	→	<i>flu</i>
<i>refrigerator</i>		<i>fridge</i>
<i>detective</i>		<i>tec</i>

English speakers also tend to use abbreviations for each others' names, such as *Bob* for *Robert*, *Ed* for *Edward*, *Liz* for *Elizabeth*, *Mike* for *Michael*. Abbreviation is also popular in education, such as *chem* for *chemistry*, *exam* for *examination*, *gym* for *gymnasium*, *lab* for *laboratory*, *math* for *mathematics*.

(4) Acronym

ACRONYM is made up from the first letters of the name of an organization, which has a heavily modified headword.

Ex. 3 - 29

CIA	Central Intelligence Agency
EEC	European Economic Community

UNESCO	United Nations Educational, Scientific, and Cultural Organization
WB	World Bank
WTO	World Trade Organization

This process is also widely used in shortening extremely long words of word groups in science, technology and other special fields.

Ex. 3 – 30

<i>Aids</i>	<i>acquired immune deficiency syndrome</i>
<i>COBOL</i>	<i>common business oriented language</i>
<i>EEG</i>	<i>electroencephalogram</i>
<i>MANIAC</i>	<i>mathematical analyzer numerical integrator and computer</i>
<i>Radar</i>	<i>radio detecting and ranging</i>
<i>SARS</i>	<i>Severe Acute Respiratory Syndrome</i>
<i>VAT</i>	<i>value added tax</i>
<i>WASP</i>	<i>white Anglo-Saxon protestant</i>

(5) Back-formation

BACK-FORMATION refers to an unusually abnormal type of word-formation where a shorter word is derived by deleting an imagined affix from a longer form already in the language. Take *televise* for example. The word *television* appeared before *televise*. The first part of the word *television* was pulled out and analyzed as a root, even though no such root occurs elsewhere in the English language. For more examples, see ex. 3 – 31.

Ex. 3 – 31

<i>gangling</i>	→	<i>gangle</i>
<i>editor</i>		<i>edit</i>
<i>peddler</i>		<i>peddle</i>
<i>hawker</i>		<i>hawk</i>
<i>enthusiasm</i>		<i>enthuse</i>
<i>laser</i>		<i>lase</i>
<i>calmative</i>		<i>calm</i>
<i>free association</i>		<i>free-associate</i>

Instead of taking out part of a word as a root, back-formation allows us to take out a word of a given category and form a new homophonous word of a different category, such as the noun form *white-wash* that becomes the verb form *whitewash*. However, some people would rather treat this process as class shift (see below).

(6) Analogical creation

The principle of ANALOGICAL CREATION can account for the co-existence of two forms, regular and irregular, in the combination of some English verbs. For instance, people know quite well that the past tense suffix for English verb should be *-ed*, and they tend to apply it to all verbs. As a result, we have both the old forms and the new forms for many English verbs.

Ex. 3 - 32

old	→	new
<i>work</i>	<i>wrought</i>	<i>worked</i>
<i>beseech</i>	<i>besought</i>	<i>beseached</i>
<i>slay</i>	<i>slew</i>	<i>slayed</i>

Analogical creation is to be distinguished from overgeneralization, the latter being regarded as a mistake in the use of language, as in *goed* (*went*), *teached* (*taught*).

(7) Borrowing

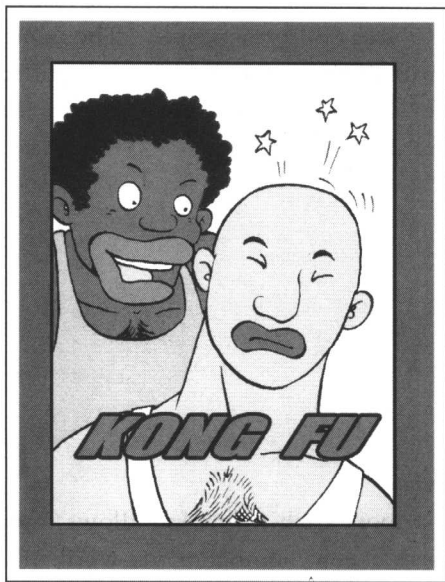
English in its development has managed to widen its vocabulary by BORROWING words from other languages. Greek, Latin, French, Spanish,

Arabic and other languages have all played an active role in this process. Throughout its history, the English language has absorbed a vast number of words from various sources.

Borrowing can be done directly or indirectly. For instance, the word *feast* was borrowed directly from the Middle French *festa*, and the word *algebra* was borrowed indirectly from Arabic through Spanish. Many English words of Greek origin are borrowed via Latin or French. There are several types of processes with regard to borrowing.

i. Loanwords. The borrowing of LOANWORDS is a process in which

both form and meaning are borrowed with only a slight change, in some cases, to the phonological system of the new language that they enter. For instance, English borrowed *au pair*, *encore*, *coup d'etat* and others from French, *al fresco*



(in the open air) from Italian, *tea* from Chinese, *sputnik* from Russian and *moccasin* (a type of shoe) from an American Indian language.

ii. Loanblend. LOANBLENDING is a process in which part of the form is native and the rest has been borrowed, but the meaning is fully borrowed. For example, the first parts of the words *coconut* and *China-town* came from Spanish and Chinese respectively, but the second parts are of the English origin.

iii. Loanshift. LOANSHIFT is a process in which the meaning is borrowed, but the form is native. The Italian *ponte* means “bridge” in the literal sense, when it refers to a type of card game, the meaning was borrowed from English. The English word *artificial satellite* is also a case of loanshift from the Russian *sputnik*.

iv. Loan translation. This is a special type of borrowing, in which each morpheme or word is translated in the equivalent morpheme or word in another language. For instance, the English word *almighty* is a literal translation from the Latin *omnipotens*. This is also called CALQUE, which may be a word, a phrase, or even a short sentence. The English expression *free verse* was translated from Latin's *verse libre*, and *black humour* is a loan translation from French *humour noir*, so is *found object* from French *objet trouve*.

3.3.2 Morpho-syntactical Change

Changes in both morphology and syntax are listed under this heading.

(1) Morphological change

Section 3.3.1 has already been concerned with morphological change, in the sense that the words have changed their forms. But that is on the derivational side, namely, the formation of new words. The present section is on the inflectional side, i. e. the form of inflectional affixes. For example, when the subject is third person singular, the archaic form of the present tense is *-eth*, such as in *do(e)th*, *goeth*, *hath*, *findeth*, *hopeth*. And the second person singular subject also took inflected verbs like *do(e)st*, *playest*, *hearest*, *speakest*.

The plural forms of nouns have also changed. For instance, the plural forms of the words *seed* and *way* are *seeds* and *ways* instead of * *seedes* and * *wayes*. The old forms of the second person *thou*, *ye*, and *yee* are now entirely replaced by a single form *you*, and *thy* by *your*. The possessive case presents even a more complex picture. The *-’s* form had once existed in O. E., but changed into “*of phrase*” if the nouns in question were inhuman in M. E., but there is a tendency to re-use the old forms such as *the university’s campus* or *China’s modernization*. Moreover, expressions such as *the Queen of England’s crown* is no longer regarded as ungrammatical. At Chaucer’s time, they should be *the Queen’s crown of England*.

(2) Syntactical change

There are more instances of changes in the syntactical features of words. The English speaker today no longer uses the fifteenth century's double comparative, such as *more gladder*, *more lower*, *moost royallest*, *moost shamefullest*. In O. E., negation was expressed by particles such as *ne* and *na*. At the time of Malory and Shakespeare, negation was expressed by putting the negative particle *not* at the end of the sentence, such as *he saw you not*, *I love thee not*, *therefore pursue me not*. Even in the Bible, the negative particle was put after the verb, such as *And because they had not root, they withered away*. Today, the negative element has to follow the finite element, such as *I am not going*, *I will not go*, *I do not want to go*. Further changes in words' syntactical features can be seen in the following examples.

Ex. 3 - 33

—Split infinitive

- a. *I have tried to consciously stop, worrying about it.*
- b. *Part of your job, as a teacher, is to really understand your pupils' personal problems.*

—Postponed prepositions

- a. *What I'm convinced of is China's modernization will surely be a success.*
- b. *That person is impossible to work with.*

—Objective case of relative pronoun.

- a. *The girl who (m) he talked about is a violinist.*
- b. *The man who (m) you met will revisit this university next week.*

Fusion or blending is also used in making new phrasal and sentential structures.

Ex. 3 - 34

- | | | |
|---|---|---------------------------|
| <i>Rarely + hardly even</i> | → | <i>rarely even</i> |
| <i>Ever and anon + now and then</i> | → | <i>every now and then</i> |
| <i>Equally good + just as good</i> | → | <i>equally as good</i> |
| <i>It's no use getting there before nine + There's no use in getting there before nine. → There's no use getting there before nine.</i> | | |

It is noted that once such fusion comes into being, it persists and is unlikely to function merely as loose elements and to be substitutable.

3.3.3 Semantic Change

Semantic change plays a very important role in increasing the vocabulary of a language. Language is symbolic, so each word serves as a symbol in relation to

a specific meaning. In this sense, we need infinite numbers of words or symbols to code our experiential concepts. But this is impossible for communication. Therefore, users give a new concept to an old form, and so the meaning of a form is multiplied. There are three kinds of semantic changes, namely, broadening, narrowing, and meaning shift. Class shift and folk etymology also contribute to change in meaning.

(1) Broadening

BROADENING is a process to extend or elevate the meaning from its originally specific sense to a relatively general one. For instance, the word *holiday* used to mean “holy day” in religious English. It means “a day for rest” today regardless of its religious nature, and hence its meaning is widened. More examples are as follows.

Ex. 3 - 35

<i>offend</i>	to strike against → to create or excite anger
<i>bird</i>	young bird → any kind of bird
<i>quarantine</i>	forty days (isolation) → a period of time under enforced isolation
<i>companion</i>	a person with whom you share bread → a person who accompanies you
<i>pile</i>	heap of stone → a quantity of objects stacked and thrown together in a heap
<i>subsist</i>	to cause to stand → to exist
<i>task</i>	tax imposed → a piece of work

(2) Narrowing

Narrowing is contrary to broadening; the original meaning of a word can be narrowed or restricted to a specific sense. For instance, the word *meat* means “food” in the 17th century, but the meaning is now restricted to “the edible flesh of mammals”. More examples are listed below.

Ex. 3 - 36

<i>camp</i>	open field → a place where a body of men are temporarily lodged in tents, huts or other makeshift shelters
<i>cattle</i>	personal property, domestic animals → animals of the species <i>Bos Taurus</i>
<i>girl</i>	young person of either sex → young woman
<i>liquid</i>	liquid → an alcoholic beverage made by distillation
<i>orator</i>	one who speaks → a person skilled in the art of public address

<i>hound</i>	dog → a special kind of dog
<i>deer</i>	beast → a particular kind of animal
<i>knight</i>	youth → a medieval gentleman-soldier

(3) Meaning shift

All semantic changes involve meaning shift. Here MEANING SHIFT is understood in its narrow sense, that is, the change of meaning has nothing to do with generalization or restriction as mentioned above. What makes the meaning of a word different is its departure from its original domain as a result of its metaphorical usage. For instance, the word *bead* originally means “prayer”, but later it refers to “the prayer bead”, the visible manifestation of a prayer, finally “small, ball-shaped piece of glass, metal or wood”.

(4) Class shift

By shifting the word class one can change the meaning of a word from a concrete entity or notion to a process or attribution. This process of word formation is also known as ZERO-DERIVATION, or CONVERSION. The word *engineer* as a noun means “a person trained in a branch of engineering”, but it means “to act as an engineer” or “to plan; to maneuver” when used as a verb. Compare the following examples.

Ex. 3 - 37

	N	V
<i>stump</i>	the part of a tree trunk left protruding from the ground	to challenge
<i>hog</i>	a pig	to take and keep (all of something) for oneself

(5) Folk etymology

FOLK ETYMOLOGY refers to the change of the form of a word or phrase, resulting from an incorrect popular notion of the origin or meaning of the term, or from the influence of more familiar terms mistakenly taken to be analogous. As a result, the word *sparrowgrass* in English derived from *asparagus*; the Spanish *cucaracha* changed into English *cockroach*. *Wiz* in *he's a wiz at math* is a shortened form of “wizard” (a man who has magic powers, and hence a man of amazing abilities). However, it was interpreted as “a man of intellectual quickness” here, which finally led to the variant *whiz*.

3.3.4 Phonological Change

Phonological change refers to changes in sound leading to changes in form. The diphthong /au/ was originally pronounced as the long vowel /u:/ in Chaucer's time.

Ex. 3 - 38

<i>mus</i> /mu:s/	→	<i>mouse</i> /maus/
<i>hus</i> /hu:s/		<i>house</i> /haus/
<i>ut</i> /u:t/		<i>out</i> /aut/
<i>sup</i> /su:p/		<i>south</i> /sauθ/

Another example is the change of /x/ into /f/ on some occasions such as *rough* or *tough*, or into /k/ on some other occasions, such as *elk*.

Why the pronunciation of sounds should have changed among the speakers remains a mystery. However, here are some factors that contribute to the formation of new pronunciation.

(1) Loss

The LOSS OF SOUND can first refer to the disappearance of the very sound as a phoneme in the phonological system. Take the sound /x/ in O. E. again for example. Apart from having changed into /f/ or /k/ in some words as mentioned above, this velar fricative was simply lost between the times of Chaucer and Shakespeare.

Sounds lost may also occur in utterances at the expense of some unstressed vowels.

Ex. 3 - 39

<i>temperature</i> /'tempərətʃə/	→	/'temprətʃə/
<i>laboratory</i> /lə'bɒrətəri/		/lə'bɒrətəri/
<i>cabinet</i> /'kæbənət/		/'kæbnət/
<i>postscript</i> /'pəʊstskript/		/'pəʊsskript/

The extreme case is the four occurrences of "n" in the utterance *The pen 'n pencil 'n the drawer are better n typewriter to copy' n easy thing like this*. They stand for *and*, *in*, *than*, *an* respectively.

(2) Addition

Sounds may also be added to the original sound sequence. Take the Latin word *studium* for example. It became *estudie* in O. F., *estudio* in Spanish, and *estudo* in Portuguese. Only in modern French did *estudie* become *etude* after undergoing a process of loss of the sound /s/. The Japanese language is good at adding a vowel to each of the consonants to form syllables that are characteristic of the Japanese way of organizing the sounds. For instance, the English word *strike* is pronounced as *sutoraiiki* after it was borrowed into Japanese. The word *rascalion* (rogue) in English was formed by adding the habitual /p/ inside the root *rascal*.

(3) Metathesis

METATHESIS is a process involving a change in the sequence of sounds.

Metathesis had been originally a performance error, which was overlooked and accepted by the speech community. For instance, the word *bird* was *brid* in O.E. The word *ask* used to be pronounced as /æʃ/ (O. E.: *ox*, *ax*), the pronunciation of which still exists in some of the dialects. *Tax* and *task* are now two different words, but they were etymologically related and still show a similarity in meaning. Compare the following two expressions.

Ex. 3 - 40

- a. They **taxed** him with his failures. (accused)
- b. They took him to **task** for his failures. (scolded)

(4) Assimilation

ASSIMILATION refers to the change of a sound by the influence of an adjacent sound, which is more specifically called "contact" or "contiguous" assimilation. The assimilation processes at work could be explained by the "theory of least effort"; that is, in speaking we tend to use as little effort as possible so that we do not want to vary too often the places of articulation in uttering a sequence of sounds. Assimilation takes place in quick speech very often. For instance, in expressions such as *immobile*, *irrevocable*, *impolite*, *illegal*, the negative prefixes *im-*, *il-*, or *ir-* should be *in-* etymologically. Sometimes assimilation may occur between two sounds that are not too far separated. For instance, *discussing shortly* (/s/ becomes /ʃ/) and *confound it* (/ə/ becomes /au/). This is called "non-contiguous" or "distant" assimilation.

3.3.5 Orthographic Change

Changes can also be found at the graphic level. Since writing is a recording of the sound system in English, phonological changes will no doubt set off graphic changes. Those in the following samples are taken from the Bible.

Ex. 3 - 41

- a. The same day went **Iesus** out of the house, and sate by the seaside. (Matthew 13)
- b. And when the **Sunne** was vp, they were scorched. (Ibid.)

Graphic forms such as *Iesus*, *sate*, and *Sunne* were manifestations of their old pronunciation. They are replaced by *Jesus*, *sat*, and *sun* respectively today. Moreover, the *v* in O.E. has changed into *u*, whereas *u* into *v*.

Further Reading

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From Word to Text

The use of language, like games, has its own rules. To play the games well, you should know the rules. Words, word groups and phrases, and clauses cannot occur at random, they have to follow certain rules of ordering. SYNTAX is the study of the rules governing the ways different constituents are combined to form sentences in a language, or the study of the interrelationships between elements in sentence structures.

4.1 Syntactic Relations

Syntactic relations can be analysed into three kinds, namely, positional relations, relations of substitutability, and relations of co-occurrence.

4.1.1 Positional Relation

For language to fulfill its communicative function, it must have a way to mark the grammatical roles of the various phrases that can occur in a clause. In a sentence such as *The boy kicked the ball*, for example, there must be a method to indicate the first NP functions as subject and the second as direct object. Two of the most common methods to convey this sort of information in human language are through positional relation (or word order) and affixation (cf. 4.4.3).

Positional relation, or WORD ORDER, refers to the sequential arrangement of words in a language. If the words in a sentence fail to occur in a fixed order required by the convention of a language, one tends to produce an utterance either ungrammatical or nonsensical at all. This can be illustrated by sentences (b) and (c) in ex. 4-1 respectively.

Ex. 4-1

(a) The boy kicked the ball.

Word Order

Dog ran the.

The dog ran.

(b) * Boy the ball kicked the

(c) * The ball kicked the boy.

On other occasions, the two sentences cited in ex. 4 - 2 have exactly the same words in number and form and are both grammatically well-formed, but they have opposite meanings.

Ex. 4 - 2

(a) The teacher saw the students.

(b) The students saw the teacher.

Positional relations are a manifestation of one aspect of "SYNTAGMATIC RELATIONS" observed by F. de Saussure. In some elementary linguistic textbooks, they are also called HORIZONTAL RELATIONS or simply CHAIN RELATIONS. Interestingly, word order is among the three basic ways (word order, genetic and areal classifications) to classify languages in the world. In this way of classification, there are totally six possible types of language, they are SVO, VSO, SOV, OVS, OSV, and VOS. English belongs to SVO type, though this does not mean that SVO is the only possible word order.

4.1.2 Relation of Substitutability

Firstly, the RELATION OF SUBSTITUTABILITY refers to classes or sets of words substitutable for each other grammatically in sentences with the same structure.

Ex. 4 - 3

The _____ smiles.

man

boy

girl

Secondly, it refers to groups of more than one word which may be jointly substitutable grammatically for a single word of a particular set.

Ex. 4 - 4

(a)

The

{
strong man
}

tallest boy
pretty girl

smiles.

(b)

He went there

{
yesterday.
}

last week.
the day before

In (a) one can make a choice from the nominal groups, whereas in (b) one can make a choice from the adverbial groups. This is what Saussure called ASSOCIATIVE

relations, or in Hjelmslev's term, PARADIGMATIC relations. To make it more understandable, they are called VERTICAL relations or CHOICE relations.

4.1.3 Relation of Co-occurrence

By the relation of CO-OCCURENCE one means that words of different sets of clauses may permit, or require, the occurrence of a word of another set or class to form a sentence or a particular part of a sentence. For instance, a nominal phrase can be preceded by a determiner and adjective(s) and followed by a verbal phrase.

Ex. 4-5

(preceded by)	NP	(followed by)
$\left\{ \begin{array}{l} \text{A pretty} \\ \text{The tallest} \\ \text{The African} \\ \dots \end{array} \right\}$	girl	$\left\{ \begin{array}{l} \text{smiles} \\ \text{sings} \\ \text{cries} \\ \text{breathes} \\ \dots \end{array} \right\}$
	boy	
	man	

Thus relations of co-occurrence partly belong to syntagmatic relations, partly to paradigmatic relations.

4.2 Grammatical Construction and Its Constituents

4.2.1 Grammatical Construction

GRAMMATICAL CONSTRUCTION or CONSTRUCT can be used to mean any syntactic construct which is assigned one or more conventional functions in a language, together with whatever is linguistically conventionalized about its contribution to the meaning or use the construct contains.

On the level of syntax, we distinguish for any construction in a language its external and its internal properties.

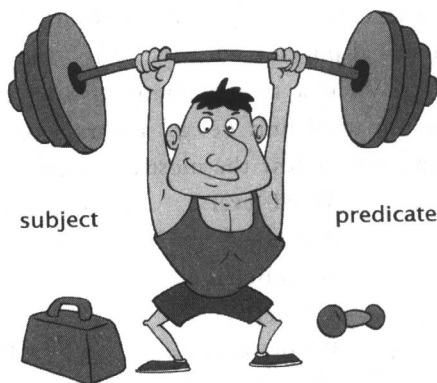
The external syntax of a construction refers to the properties of the construction as a whole, that is to say, anything speakers know about the construction that is relevant to the larger syntactic contexts in which it is welcome. For instance, the different terms such as clausal type, phrasal type (in ex. 4-6) are assigned to the properties of the constructions respectively.

The internal syntax of a construction is really a description of the construction's "make-up", with the terms such as "subject, predicate, object, determiner, noun" used in ex. 4-6.

Ex. 4-6

Subject	+	Verb	+	Object (clausal type)
Mary (subject)		ate (verb)		an apple (object).
Determiner	+	Noun (phrasal type)		
this (determiner)		edition (noun)		

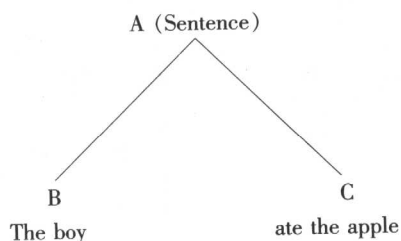
Furthermore, in the context of discourse/text analysis, construction refers to a token of a constructional type. The sentence *The girl is giggling* is recognised as "Subject + Predicate" type, but it is realized in a string *The + girl + is + giggling*. It is the construction in this sense that can be analysed into constituents.



4.2.2 Immediate Constituents

Constituent is a term used in structural sentence analysis for every linguistic unit, which is a part of a larger linguistic unit. Several constituents together form a construction: for example, in the sentence *The boy ate the apple*, *S (A)*, *the boy (B)*, *ate the apple (C)*, each part is a constituent. Constituents can be joined together with other constituents to form larger units. If two constituents, in the case of the example above, *B (the boy)* and *C (ate the apple)*, are joined to form a hierarchically higher constituent *A ("S", here a sentence)*, then *B* and *C* are said to be the immediate constituents of *A*.

Ex. 4-7



This tree contains three Nodes. The top-most node, *A*, is the mother of the two lower nodes, *B* and *C*. *B* and *C* are Daughters of the same mother, and so we refer to them as Sister nodes. The simple tree in the above represents a constituent of category *A* which is composed of two parts, one of category *B* and

the other of category C, occurring in that order.

To dismantle a grammatical construction in this way is called IMMEDIATE CONSTITUENT ANALYSIS or IC analysis.

The immediate constituents themselves can be constructions of specific types, for instance, the nominal phrase "*The boy*" can be further analysed into "*The* (Determiner) + *boy* (Noun)". Thus, "*The boy*" is the construction of a nominal phrase, whereas "*The*" and "*boy*" are its constituents.

When a tree diagram is used to represent the constituent structure of a grammatical unit (e. g. a phrase or sentence), syntactic categories are used to label the nodes; the most common of these are listed in the following:

Word-level

N = noun

A = adjective

V = verb

P = preposition

Det = determiner

Adv = adverb

Conj = conjunction

Phrasal

NP = noun phrase

AP = adjective phrase

VP = verb phrase

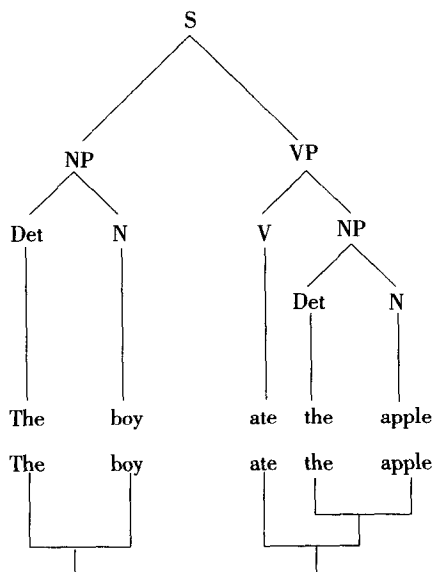
PP = preposition phrase

S = sentence or clause

Take the construction *The boy ate the apple* for example again, one can analyze it by means of a TREE DIAGRAM in detail.

(a) Tree diagram

Ex. 4-8



(b) Bracketing

In contrast to tree diagram, BRACKETING is not so common, but it is an economic notation in representing the constituent structure of a grammatical unit.

((The) (boy)) ((ate) ((the) (apple)))

4.2.3 Endocentric and Exocentric Constructions

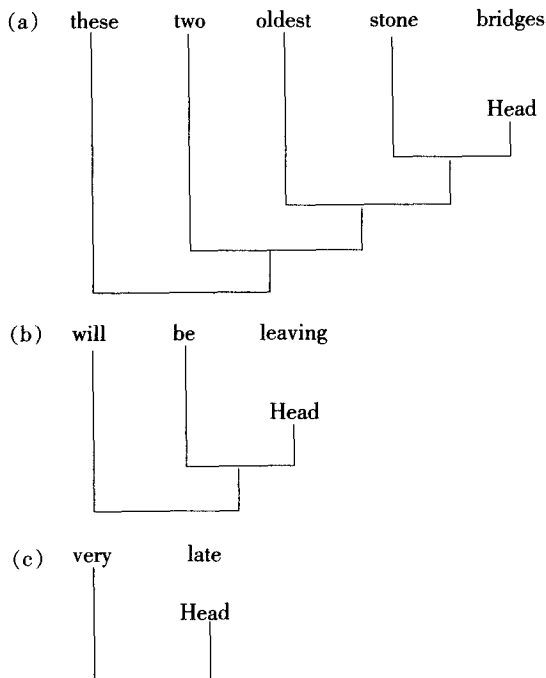
The syntactic constructions analysed are of two main types: endocentric and exocentric constructions, depending on their distribution and the relation between their constituents.

4.2.3.1 Endocentric

ENDOCENTRIC construction is one whose distribution is functionally equivalent to that of one or more of its constituents, i.e., a word or a group of words, which serves as a definable CENTRE or HEAD.

Usually noun phrases, verb phrases and adjective phrases belong to endocentric types because the constituent items are subordinate to the Head.

Ex. 4 - 9



4.2.3.2 Exocentric

EXOCENTRIC construction is just the opposite of endocentric construction. It refers to a group of syntactically related words where none of the words is functionally equivalent to the group as a whole, that is, there is no definable "Centre" or "Head" inside the group. Exocentric construction usually includes basic sentence, prepositional phrase, predicate (verb + object) construction, and connective (*be* + complement) construction.

Ex. 4 - 10

- (a) The boy smiled. (Neither constituent can substitute for the sentence structure as a whole.)
- (b) He hid behind the door. (Neither constituent can function as an adverbial.)
- (c) He kicked the ball. (Neither constituent stands for the verb-object sequence.)
- (d) John seemed angry. (After division, the connective construction no longer exists.)

4.2.4 Coordination and Subordination

Endocentric constructions fall into two main types, depending on the relation between constituents: coordination and subordination.

4.2.4.1 Coordination

COORDINATION is a common syntactic pattern in English and other languages formed by grouping together two or more categories of the same type with the help of a conjunction such as *and*, *but* and *or*. This phenomenon is known as coordination. And these two or more words or phrases or clauses have equivalent syntactic status, each of the separate constituents can stand for the original construction functionally.

Ex. 4 - 11

Coordination of NPs:

[_{NP} the lady] or [_{NP} the tiger]

Coordination of VPs:

[_{VP} go to the library] and [_{VP} read a book]

Coordination of PPs:

[_{PP} down the stairs] and [_{PP} out the door]

Coordination of APs:

[_{AP} quite expensive] and [_{AP} very beautiful]

Coordination of Ss:

[_sJohn loves Mary] and [_s Mary loves John too].

Such a structure is usually considered to be doubly headed, since both of the conjoined elements function as heads of the larger unit. That is, in a coordinate sentence, two (or more) S constituents occur as daughters and co-heads of a higher S.

One property coordination reveals is that there is no limit on the number of coordinated categories that can appear prior to the conjunction. Thus, we can form structures such as ex. 4 – 12, in which the subject NP contains four smaller NPs prior to the underlined conjunction and one after it:

Ex. 4 – 12

[_{NP} A man, a woman, a boy, a cat and a dog] got into the car.

Therefore, coordination occupies its own place in the creativity of language:
i. e. recursiveness (also see 4.6).

4.2.4.2 Subordination

SUBORDINATION refers to the process or result of linking linguistic units so that they have different syntactic status, one being dependent upon the other, and usually a constituent of the other. Thus the subordinate constituents are words which modify the Head, as shown in the underlined parts of the constructions. Consequently, they can be called modifiers.

Ex. 4 – 13

(a) two dogs
Head

(b) (My brother) can drink (wine).
Head

(c) Swimming in the lake (is fun).
Head

(d) (The pepper was) hot beyond endurance.
Head

Certainly, clauses can be used as subordinate constituents, the three basic types of subordinate clauses are: complement clauses, adjunct (or adverbial) clauses, and relative clauses.

Ex. 4 – 14

(a) John believes [that the airplane was invented by an Irishman].
(complement clause)

(b) Elizabeth opened her presents [before John finished his dinner].

(adverbial clause)

(c) The woman [that I love] is moving to the south. (relative clause).

Since all clauses contain a noun phrase subject and a finite verb phrase predicate, you can expand their noun phrases and verb phrases, and you can rearrange and conjoin them, in this sense, subordination, as well as coordination, can take part in the recursiveness of language in several ways, one among them is shown in ex. 4 – 40.

4.3 Syntactic Function

The SYNTACTIC FUNCTION shows the relationship between a linguistic form and other parts of the linguistic pattern in which it is used.

Names of functions are expressed in terms of subjects, objects, predicators, modifiers, complements, etc. Apart from the notion of “modifiers” being already given in the previous section, the following are some of the basic functional terms in syntax.

4.3.1 Subject

In some languages, SUBJECT refers to one of the nouns in the nominative case. The typical example can be found in Latin, where subject is always in nominative case, such as *pater* and *filius* in the following examples.

Ex. 4 – 15

- (a) *Pater filium amat.* (the father loves the son)
- (b) *Patrem filius amat.* (the son loves the father)

In English, the subject of a sentence is often said to be the doer of the action, while the object is the person or thing acted upon by the doer. This definition seems to work for sentences like (ex. 4 – 16a, b), but is clearly wrong in examples like (ex. 4 – 16c, d).

Ex. 4 – 16

- a. Mary slapped John.
- b. A dog bit John.
- c. John was bitten by a dog.
- d. John underwent major heart surgery.

Expressions like “the doer of the action” or “the person or thing acted upon” identify particular semantic roles, namely agent and patient. But, as we can see in ex. 4 – 16, the subject is not always an agent, and the patient is not always an object. John is “acted upon” in all four of these sentences; but the word *John*

appears as the object in ex. 4 – 16a, b and the subject in ex. 4 – 16c, d.

In order to account for the case of subject in passive voice such as ex. 4 – 16c, we have another two terms “grammatical subject” and “logical subject”. Since the core object noun (*John* in this case) sits in the slot before the verb in the passive, it is called the GRAMMATICAL SUBJECT, for the original object noun phrase occupies the grammatical space before a verb, the space that a subject normally occupies, the core subject (*A dog*), now the object of a preposition (*by a dog*), is called the LOGICAL SUBJECT, since semantically the core subject still does what a subject normally does: it performs an action.

Another traditional definition of the subject is “what the sentence is about” (i.e., topic). Again, this definition seems to work for many sentences (such as ex. 4 – 17a), but fails in others (such as ex. 4 – 17b, c). All three of these sentences seem to be “about” *Bill*; thus we could say that *Bill* is the topic of all three sentences. But *Bill* is the subject in ex. 4 – 17a, the object in ex. 4 – 17b, and neither subject nor object in ex. 4 – 17c. These sentences make it clear that the topic is not always the grammatical subject.

Ex. 4 – 17

- a. Bill is a very crafty fellow.
- b. (Jack is pretty reliable, but) Bill I don't trust.
- c. As for Bill, I wouldn't take his promises very seriously.

It seems that we can not reliably identify the subject of a sentence with either the agent or the topic. Rather, we use grammatical criteria to develop a workable definition. What characteristics do subjects have? Note the following properties of subjects in English:

A. Word order: Subject ordinarily precedes the verb in statement;

Ex. 4 – 18

- a. Sally collects stamps.
- b. *Collects Sally stamps.

B. Pro-forms: The first and third person pronouns in English appear in a special form when the pronoun is a subject, as illustrated in ex. 4 – 14. This form is not used when the pronoun occurs in other positions:

Ex. 4 – 19

- a. He loves me.
- b. I love him.
- c. We threw stones at them.
- d. They threw stones at us.

C. Agreement with verb: In the simple present tense, an -s is added to the verb when a third person subject is singular. However, the number and person

of the object or any other element in the sentence have no effect at all on the form of the verb:

Ex. 4-20

- a. She *angers* him.
- b. They *anger* him.
- c. She *angers* them.

D. Content questions: if the subject is replaced by a question word (*who* or *what*), the rest of the sentence remains unchanged, as in (ex. 4-21b). But when any other element of the sentence is replaced by a question word, an auxiliary verb must appear before the subject. If the basic sentence does not contain an auxiliary verb, we must insert *did* or *do(es)* immediately after the question word, as in (ex. 4-21d,c)

Ex. 4-21

- (a) John stole/would steal Mrs. Thatcher's picture from the British Council.
- (b) Who stole/would steal Mrs. Thatcher's picture from the British council?
- (c) What would John steal, if he had the chance?
- (d) What did John steal from the British Council?
- (e) Where did John steal Mrs. Thatcher's picture from?

E. Tag question: A TAG QUESTION is used to seek confirmation of a statement. It always contains a pronoun which refers back to the subject, and never to any other elements in the sentence.

Ex. 4-22

- (a) John loves Mary, doesn't he?
- (b) Mary loves John, doesn't she?
- (c) * John loves Mary, doesn't she?

Of course, for another language the list of specific properties would be different.

4.3.2 Predicate

PREDICATE refers to a major constituent of sentence structure in a binary analysis in which all obligatory constituents other than the subject were considered together. It usually expresses actions, processes, and states that relate to the subject.

Ex. 4-23

- (a) The boy is running.
- (b) Peter broke the glass.

(c) Jane must be mad!

As predicate includes constituents such as verb, object, complement, etc., people find it illogical to use a class-term, namely, the verb, in grammatical analysis of a functional nature. The word PREDICATOR is suggested for verb or verbs included in a predicate.

4.3.3 Object

OBJECT is also a term hard to define. Since, traditionally, subject can be defined as the doer of an action, object may refer to the “receiver” or “goal” of an action, and it is further classified into DIRECT OBJECT and INDIRECT OBJECT.

Ex. 4 – 24

(a) Mother bought a doll.

(b) Mother gave my sister a doll.

Ind. Obj., Dir. Obj.

In some inflecting languages, object is marked by case labels; the accusative case for direct object, and the dative case for indirect object.

In English, “object” is recognised by tracing its relation to word order (after the verb and preposition) and by inflections (of pronouns).

Ex. 4 – 25

(a) Mother gave a doll to my sister.

(b) John kicked me.

Modern linguists (e. g. Chomsky, Halliday) suggest that object refers to such an item that it can become subject in a passive transformation.

Ex. 4 – 26

(a) John broke the glass. (The glass was broken by John.)

(b) Peter saw Jane. (Jane was seen by Peter.)

Although there are nominal phrases in ex. 4 – 27, they are by no means objects because they cannot be transformed into passive voice.

Ex. 4 – 27

(a) He died last week.

(b) The match lasted three hours.

(c) He changed trains at Fengtai. (* Trains were changed by him at Fengtai.)

4.3.4 The Relation between Classes and Functions

Classes and functions determine each other, but not in any one-to-

one relation.

A class item can perform several functions. For instance, a noun or a nominal phrase can function as the subject, object, modifier, adverbial and complement of a sentence.

Ex. 4 - 28

- (a) The boys are playing football. (Subj. and Obj.)
- (b) the Summer Palace (Modifier)
- (c) He came here last month. (Adv.)
- (d) He changed trains at Fengtai. (Comp.)

Similarly, a function can be fulfilled by several classes. For instance, the subject of a sentence can be realized by a noun, pronoun, numeral, infinitive, etc.

Ex. 4 - 29

- (a) The dog is barking. (Nominal)
- (b) We will stay here. (Pronoun)
- (c) Only two-thirds of the population here are workers. (Numeral)
- (d) To run fast can be dangerous. (Verbal)

4.4 Category

The term CATEGORY in some approaches refers to classes and functions in its narrow sense, e.g., noun, verb, subject, predicate, noun phrase, verb phrase, etc. More specifically, it refers to the defining properties of these general units; the categories of the noun, for example, include number, gender, case and countability; and of the verb, for example, tense, aspect, voice, etc. In this section, we are talking about the grammatical categories in the second sense.

4.4.1 Number

NUMBER is a grammatical category used for the analysis of word classes displaying such contrasts as singular, dual, plural, etc. In English, number is mainly observed in nouns, and there are only two forms: singular and plural, such as *dog*; *dogs*. Number is also reflected in the inflections of pronouns and verbs, such as *He laughs*; *They laugh*, *this man*; *these men*.

In other languages, for example, French, the manifestation of number can also be found in adjectives and articles.

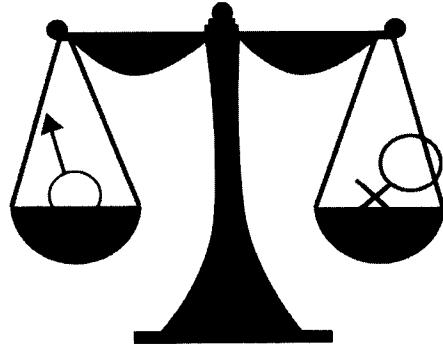
Ex. 4 - 30

- (a) le cheval royal (the royal horse)

(b) les chevaux royaux (the royal horses)

4.4.2 Gender

GENDER displays such contrasts as “masculine: feminine: neuter”, “animate: inanimate”, etc. for the analysis of word classes. When word items refer to the sex of real-world entities, we are talking about natural gender. The opposite is grammatical gender. Though there is a statistical correlation between natural gender and grammatical gender, the assignment may seem quite arbitrary in many cases, for instance, in Latin, *ignis* “fire” is masculine, while *flamma* “flame” is feminine.



English gender contrast can only be observed in pronouns and a small number of nouns, and they are mainly of the natural gender type.

Ex. 4 – 31

he: she: it

prince: princess

author: authoress

Again, in French, gender is manifested also both in adjectives and articles.

Ex. 4 – 32

beau cadeau (fine gift)

belle maison (fine house)

le cadeau est beau. (The gift is good.)

La maison est belle. (The house is beautiful.)

One has always to keep an eye on gender in some languages because it changes lexical meaning sometimes, for example, in French:

Ex. 4 – 33

(a) le poêle (the stove)

la poêle (the frying pan)

(b) le pendule (the pendulum)

la pendule (the clock)

4.4.3 Case

The case category is used in the analysis of word classes to identify the

syntactic relationship between words in a sentence.

In Latin grammar, cases are based on variations in the morphological forms of the word, and are given the terms “accusative”, “nominative”, “dative”, etc. There are five cases in ancient Greek and eight in Sanskrit. Finnish has as many as fifteen formally distinct cases in nouns, each with its own syntactic function.

In English, CASE is a special form of the noun which frequently corresponds to a combination of preposition and noun, and it is realised in three channels: (a) inflection, (b) following a preposition (c) word order, as manifested in ex. 4 – 34.

Ex. 4 – 34

- (a) teacher; teacher's
- (b) with/to a man
- (c) John kicked Peter; Peter kicked John.

4.4.4 Agreement

AGREEMENT (or CONCORD) may be defined as the requirement that the forms of two or more words of specific word classes that stand in specific syntactic relationship with one another, shall also be characterized by the same paradigmatically marked category (or categories). This syntactic relationship may be anaphoric, as when a pronoun agrees with its antecedent [ex. 4 – 35a], or it may involve a relation between a head and its dependent [ex. 4 – 35b], as when a verb agrees with its subject.

The examples for the agreement of number between nouns and verbs are (c) and (d) in ex. 4 – 35.

Ex. 4 – 35

- (a) — Whose is this pen?
— Oh, it's the one I lost.
- (b) Each person may have one coin.
- (c) The man runs. These men run.
- (d) The bird flies. These birds fly.

The features of the head noun which may be reflected in the agreeing dependent forms are what we have described above: gender, number, and case.

Agreement between gender and number should be shown in noun-adjective relation in French (Compare the last two phrases in ex. 4 – 33).

4.5 Phrase, Clause and Sentence

4.5.1 Phrase

PHRASE is a single element of structure containing more than one word, and lacking the subject-predicate structure typical of clauses. Traditionally, it is seen as part of a structural hierarchy, positioned between clause and word. Therefore, first, a phrase must be a group of words which form a constituent. Second, a phrase is lower on the grammatical hierarchy than clauses. More precisely, simple clauses may (and usually do) contain phrases, but simple phrases do not (in general) contain clauses.

Ex. 4 – 36

the three tallest girls (nominal phrase)

has been doing (verbal phrase)

extremely difficult (adjectival phrase)

to the door (prepositional phrase)

very fast (adverbial phrase)

However, there is a tendency to make a distinction between WORD GROUP and PHRASE. A word group is an extension of word of a particular class by way of modification with its main features of the class unchanged. Thus we have nominal group, verbal group, adverbial group, conjunction group and preposition group (e. g. *right behind*, *all along*). “*To the door*” in ex. 4 – 36 is still accepted as a prepositional phrase which consists of a preposition plus a nominal group, and is, consequently, no longer a preposition.

4.5.2 Clause

A constituent with its own subject and predicate, if it is included in a larger sentence, is a CLAUSE.

Clause can also be classified into FINITE and NON-FINITE clauses, the latter including the traditional infinitive phrase, participial phrase, and gerundial phrase.

Ex. 4 – 37

(a) The best thing would be to leave early.

(b) It's great for a man to be free.

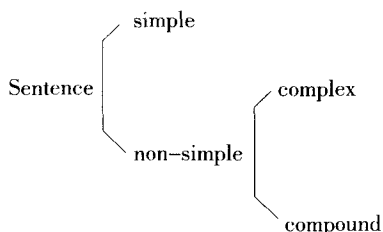
(c) Having finished their task, they came to help us.

(d) Xiao Li being away, Xiao Wang had to do the work.

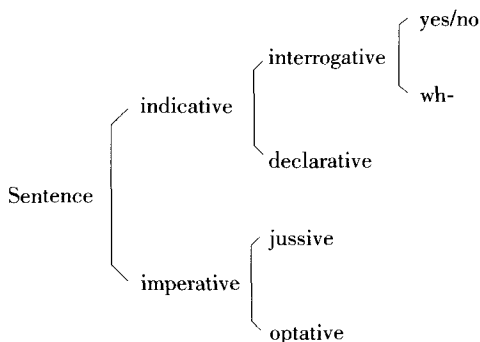
- (c) Filled with shame, he left the house.
 (f) All our savings gone, we started looking for jobs.
 (g) It's no use crying over spilt milk.
 (h) Do you mind my opening the window?

4.5.3 Sentence

Traditionally, SENTENCE is the minimum part of language that expresses a complete thought. Bloomfield (1935) defined the sentence as "one not included by virtue of any grammatical construction in any larger linguistic form". Sentences may be classified along the intersecting dimensions of structure and function. Here are some of the approaches. The traditional approach presents a binary division in terms of structure as follows:



The functional approach gives a framework like this:



Some linguists are now interested in the communicative function of utterances and label various sentences as "statement", "question", "command", "request", "confirmation", etc.

Based on word classes, Bolinger (1969) reports five basic sentence types.

Ex. 4-38

- (a) Mother fell. (Nominal + intransitive verbal)
 (b) Mother is young. (Nominal + copula + complement)

- (c) Mother loves Dad. (Nominal + transitive verbal + nominal).
- (d) Mother fed Dad breakfast. (Nominal + transitive verbal + nominal + nominal)
- (e) There is time. (There + existential + nominal)

Quirk, et al. (1972) introduces seven sentence types according to the grammatical functions of the constituents involved in a sentence.

Ex. 4 - 39

- | | |
|---------------|--------------------------------------|
| (a) Type SVC | Mary is kind.
a nurse. |
| (b) Type SVA | Mary is here.
in the house. |
| (c) Type SV | The child is laughing. |
| (d) Type SVO | Somebody caught the ball. |
| (e) Type SVOC | We have proved him wrong.
a fool. |
| (f) Type SVOA | I put the plate on the table. |
| (g) type SVOO | She gives me expensive presents. |

4.6 Recursiveness

Though it mainly means that a phrasal constituent can be embedded within (i.e., be dominated by) another constituent having the same category, RECURSIVENESS has become an umbrella term, under which may be brought together several important linguistic phenomena such as coordination and subordination (See 4.2.4), conjoining and embedding, hypotactic and paratactic. All these are means to extend sentences. How long can a sentence be? Theoretically, there is no limit to the number of embedding one relative clause into another relative clause, so long as it does not become an obstacle to successful communication. The same holds true for nominal clauses and adverbial clauses. This is what we call recursiveness, for example, ex.4 - 40 is possible:

Ex. 4 - 40

I met a man who had a son whose wife sold cookies that she had baked in her kitchen that was fully equipped with electrical appliances that were new.

Recursiveness, together with openness, is generally regarded as the core of creativity of language.

Ex. 4 - 41

- (a) John's sister

John's sister's husband

John's sister's husband's uncle

John's sister's husband's uncle's daughter, etc.

(b) that house in Beijing

the garden of that house in Beijing

the tree in the garden of that house in Beijing

a bird on the tree in the garden of that house in Beijing

4.6.1 Conjoining

CONJOINING refers to the process where one clause is coordinated or conjoined with another. The sentences made up in this way can be understood as instances of coordination. The conjunctions used in this case are **and**, **but**, and **or**.

Ex. 4-42

(a) John bought a hat and his wife bought a handbag.

(b) Give me liberty or give me death.

4.6.2 Embedding

Clauses are either independent or dependent. When you embed a clause as a dependent clause, you take one sentence and combine it into another. EMBEDDING refers to the means by which one clause is included in the sentence (main clause) in syntactic subordination. The three basic types of subordinate clause are complement, adjunct (or adverbial) and relative clauses.

Ex. 4-43

(a) I saw the man who had visited you last year. (relative clause)

(b) I don't know whether Professor Li needs this book. (complement clause)

(c) If you listened to me, you wouldn't make mistakes. (adverbial clause)

4.7 Beyond the Sentence

The development of modern linguistic science has helped push the study of syntax beyond the traditional sentence boundary. More linguists are now exploring the syntactic relation



between sentences in a paragraph or chapter or the whole text, which leads to the emergence of TEXT LINGUISTICS and DISCOURSE ANALYSIS.

4.7.1 Sentential Connection

The notions of hypotactic and paratactic relations can also be applied to the study of syntactic relations between sentences.

Ex. 4 - 44

—Hypotactic; (subordinate clauses)

- (a) You can phone the doctor if you like. However, I very much doubt whether he is in.
- (b) We live near the sea. So we enjoy a healthy climate.

—Paratactic; (coordinate clauses)

- (a) In Guangzhou it is hot and humid during the summer. In Beijing it is hot and dry.
- (b) He dictated the letter. She wrote it.
- (c) The door was open. He walked in.

4.7.2 Cohesion

COHESION is a concept to do with discourse or text rather than with syntax, it refers to relations of meaning that exist within the text, and defines it as a text. Discoursal/textual cohesiveness can be realized by employing various cohesive devices: conjunction, ellipsis, lexical collocation, lexical repetition, reference, substitution, etc.

Ex. 4 - 45

- (a) He couldn't open the door. It was locked tight. (Reference)
- (b) "Why don't you use your own recorder?"
"I don't have one." (Substitution)
- (c) "Did she get there at six?"
"No, (she got there) earlier (than six)." (Ellipsis)
- (d) I wanted to help him. Unfortunately it was too late. (Logical connection)
- (e) "Shall we invite ZhangHui?"
"No. I can't stand the man." (Lexical collocation)

Further Reading

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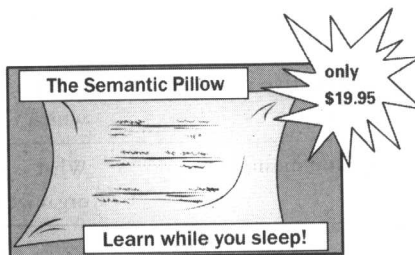
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Meaning

The subject concerning the study of meaning is called SEMANTICS. More specifically, semantics is the study of the meaning of linguistic units, words and sentences in particular. ①

Meaning has always been a central topic in human scholarship, though the term “semantics” has only a history of a little over a hundred years. There were discussions of meaning in the works of the Greek philosopher Plato as early as in the fifth century before Christ. In China, Lao Zi had discussed

similar questions even earlier. The fact that over the years numerous dictionaries have been produced with a view to explaining the meaning of words also bears witness to its long tradition. Nevertheless, semantics remains the least known area in linguistics, compared with phonetics, phonology, morphology and syntax.



5.1 Meanings of “MEANING”

One difficulty in the study of MEANING is that the word “meaning” itself has different meanings. In their book *The Meaning of Meaning* written in 1923, C. K. Ogden and I. A. Richards presented a “representative list of the main definitions which reputable students of meaning have favoured” (p.186). There are 16 major categories of them, with sub-categories all together, numbering 22.

G. Leech in a more moderate tone recognizes 7 types of meaning in his *Semantics* (p.23), first published in 1974, as follows:

① To separate this study of meaning from that in terms of logic, or philosophy, it may be more explicitly called linguistic semantics.

Table 5-1

1. Conceptual meaning	Logical, cognitive, or denotative content
Associative meaning	
2. Connotative meaning	What is communicated by virtue of what language refers to.
3. Social meaning	What is communicated of the social circumstances of language use.
4. Affective meaning	What is communicated of the feelings and attitudes of the speaker/writer.
5. Reflected meaning	What is communicated through association with another sense of the same expression.
6. Collocative meaning	What is communicated through association with words which tend to occur in the environment of another word.
7. Thematic meaning	What is communicated by the way in which the message is organized in terms of order and emphasis.

Leech says that the first type of meaning—conceptual meaning—makes up the central part. It is “denotative” in that it is concerned with the relationship between a word and the thing it denotes, or refers to. In this sense, conceptual meaning overlaps to a large extent with the notion of REFERENCE. But the term “connotative” used in the name of the second type of meaning is used in a sense different from that in philosophical discussions. Philosophers use CONNOTATION, opposite to DENOTATION, to mean the properties of the entity a word denotes. For example, the denotation of *human* is any person such as John and Mary, and its connotation is “biped”, “featherless”, “rational”, etc. In Leech’s system, however, as is the case in daily conversation, “connotative” refers to some additional, especially emotive, meaning. The difference between *politician* and *statesman*, for example, is connotative in that the former is derogatory while the latter is commendatory. This type of meaning and the following four types are collectively known as associative meaning in the sense that an elementary associationist theory of mental connections is enough to explain their use. The last type, thematic meaning, is more peripheral since it is only determined by the order of the words in a sentence and the different prominence they each receive.

But even when “meaning” is understood in the first sense above, there are still different ways to explain the meaning of a word. In everyday conversation,

there are at least the following four ways. Suppose you do not know the word *desk*, and ask what it means. One may point to the object the word stands for, and answer “This is a desk”. Alternatively he may describe the object as “a piece of furniture with a flat top and four legs, at which one reads and writes”. Or he may paraphrase it, saying that “a desk is a kind of table, which has drawers”. If he is a teacher of English, then he may more often than not give you its Chinese equivalent 书桌. The first method is usually used by adults to children, since their vocabulary is small and it is difficult to explain to them in words. The second and the third are the usual methods adopted in monolingual dictionaries, which sometimes may also resort to the first by illustrating with pictures. And the fourth is the kind of explanation provided by bilingual dictionaries and textbooks for teaching foreign languages.

5.2 The Referential Theory

The theory of meaning which relates the meaning of a word to the thing it refers to, or stands for, is known as the REFERENTIAL THEORY. This is a very popular theory. It is generally possible, as we have shown in the previous section, to explain the meaning of a word by pointing to the thing it refers to. In the case of proper nouns and definite noun phrases, this is especially true. When we say “The most influential linguist Noam Chomsky teaches at MIT”, we do use “the most influential linguist” and “Noam Chomsky” to mean a particular person, and “MIT” a particular institution of higher learning.

However, there are also problems with this theory. One is that when we explain the meaning of *desk* by pointing to the thing it refers to, we do not mean a desk must be of the particular size, shape, colour and material as the desk we are pointing to at the moment of speaking. We are using this particular desk as an example, an instance, of something more general. That is, there is something behind the concrete thing we can see with our eyes. And that something is abstract, which has no existence in the material world and can only be sensed in our minds. This abstract thing is usually called CONCEPT.^①

A theory which explicitly employs the notion “concept” is the semantic triangle proposed by Ogden and Richards in *The Meaning of Meaning*. They argue that the relation between a word and a thing it refers to is not direct. It is

① It is in this sense that Leech calls first type of meaning conceptual meaning.

mediated by concept. In a diagram form, the relation is represented as follows:^①

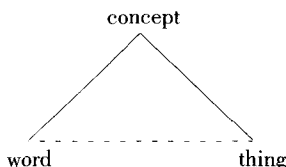


Figure 5-1

Now if we relate this discussion with the four ways of explaining the meaning of a word mentioned in the last section, we may say that the first method of pointing to an object corresponds to the direct theory of the relation between words and things, while the second corresponds to the indirect theory. By saying *desk* is “a piece of furniture with a flat top and four legs, at which one reads and writes”, we are in fact resorting to the concept of desk, or summarizing the main features, the defining properties, of a desk. And the third and fourth methods are even more indirect, by involving the concept of another word *table* or 书桌.

Leech also uses SENSE as a briefer term for his conceptual meaning. This usage is justifiable in that as a technical term “sense” may be used in the same way as “connotation” is used in philosophy. It may refer to the properties an entity has. In this usage, “sense” is equivalent to “concept”. The definition of *desk* as “a piece of furniture with a flat top and four legs, at which one reads and writes” may also be called the sense of *desk*. So the distinction between “sense” and “reference” is comparable to that between “connotation” and “denotation”. The former refers to the abstract properties of an entity, while the latter refers to the concrete entities having these properties. In other words, Leech’s conceptual meaning has two sides: sense and reference.

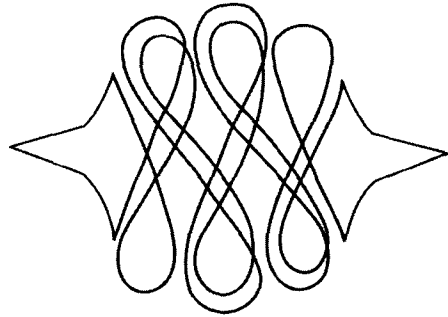
There is yet another difference between sense and reference. To some extent, we can say every word has a sense, i. e. some conceptual content, otherwise we will not be able to use it or understand it. But not every word has a reference. Grammatical words like *but*, *if*, *and* do not refer to anything. And words like *God*, *ghost* and *dragon* refer to imaginary things, which do not exist in reality. What is more, it is not convenient to explain the meaning of a word

^① The term Ogden and Richards used for “Word” is “symbol”, that for “concept” is “thought of reference”, and that for “thing” is “referent”.

in terms of the thing it refers to. The thing a word stands for may not always be at hand at the time of speaking. Even when it is nearby, it may take the listener some time to work out its main features. For example, when one sees a computer for the first time, one may mistake the monitor for its main component, thinking that a computer is just like a TV set. Therefore people suggest that we should study meaning in terms of sense rather than reference.

5.3 Sense Relations

Words are in different sense relations with each other. Some words have more similar senses than others. For example, the sense of *desk* is more closely related to that of *table* than to *chair*. Conversely we can say the sense of *desk* is more different from that of *chair* than from *table*. And the sense of *desk* is included in the sense of *furniture*, or the sense of *furniture* includes that of *desk*. As a result the sense of a word may be seen as the network of its sense relations with others. In other words, sense may be defined as the semantic relations between one word and another, or more generally between one linguistic unit and another. It is concerned with the intralinguistic relations. In contrast, as we alluded to earlier, reference is concerned with the relation between a word and the thing it refers to, or, more generally between a linguistic unit and a non-linguistic entity it refers to. There are generally three kinds of sense relations recognized, namely, sameness relation, oppositeness relation and inclusiveness relation.



5.3.1 Synonymy

SYNONYMY is the technical name for the sameness relation. English is said to be rich in synonyms. Its vocabulary has two main sources: Anglo-Saxon and Latin. There are many pairs of words of these two sources which mean the same, e.g. *buy* and *purchase*, *world* and *universe*, *brotherly* and *fraternal*.

But total synonymy is rare. The so-called synonyms are all context dependent. They all differ one way or another. For example, they may differ in style. In the context "Little Tom _____ a toy bear", *buy* is more appropriate than *purchase*. They may also differ in connotations. That is why people

jokingly say "I'm thrifty. You are economical. And he is stingy". Thirdly, there are dialectal differences. *Autumn* is British while *fall* is American. The British live in *flats* and take the *underground* or *tube* to work while the Americans live in *apartments* and take the *subway*.

5.3.2 Antonymy

ANTONYMY is the name for oppositeness relation. There are three main sub-types: gradable antonymy, complementary antonymy, and converse antonymy.

(1) Gradable antonymy

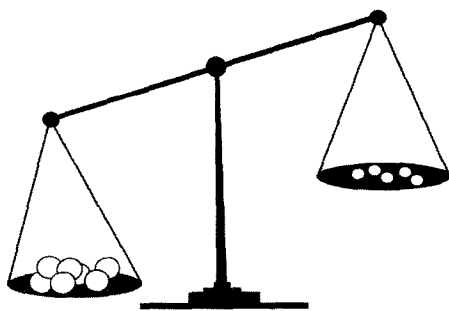
This is the commonest type of antonymy. When we say two words are antonyms, we usually mean pairs of words like *good*: *bad*, *long*: *short*, *big*: *small*. As the examples show, they are mainly adjectives. And they have three characteristics.

First, as the name suggests, they are GRADABLE. That is, the members of a pair differ in terms of degree. The denial of one is not necessarily the assertion of the other. Something which is not "good" is not necessarily "bad". It may simply be "so-so" or "average". As such, they can be modified by "very".

Something may be *very good* or *very bad*. And they may have comparative and superlative degrees. Something may be *better* or *worse* than another. Something may be the *best* or *worst* among a number of things. Sometimes the intermediate degrees may be lexicalized. They may be expressed by separate words rather than by adding modifiers. For example, the term for the size which is neither big nor small is *medium*. And between the two extremes of temperature *hot* and *cold*, there are *warm* and *cool*, which form a pair of antonyms themselves, and may have a further intermediate term *lukewarm*.

Second, antonyms of this kind are graded against different norms. There is no absolute criterion by which we may say something is *good* or *bad*, *long* or *short*, *big* or *small*. The criterion varies with the object described. A *big car* is in fact much smaller than a *small plane*. A *microcomputer* is giant by the standard of *microorganism*.

Third, one member of a pair, usually the term for the higher degree, serves as the cover term. We ask somebody "How old are you?" and the person asked



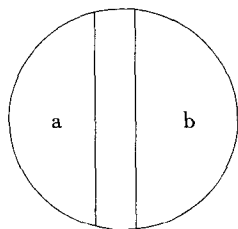
may not be old in any sense. He may be as young as twenty or three. The word *old* is used here to cover both *old* and *young*. The sentence means the same as "What is your age?"

Technically, the cover term is called "unmarked", i. e. usual; and the covered "marked", or unusual. That means, in general, it is the cover term that is more often used. If the covered is used, then it suggests that there is something odd, unusual here. The speaker may already know that somebody/something is young, small, near and he wants to know the extent in greater detail. This characteristic is also reflected in the corresponding nouns, such as *length*, *height*, *width*, *breadth* and *depth*, which are cognates of the cover terms.

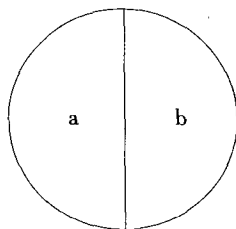
(2) Complementary antonymy

Antonyms like *alive*: *dead*, *male*: *female*, *present*: *absent*, *innocent*: *guilty*, *odd*: *even*, *pass*: *fail* (a test), *hit*: *miss* (a target), *boy*: *girl* are of this type. In contrast to the first type, the members of a pair in this type are complementary to each other. That is, they divide up the whole of a semantic field completely. Not only the assertion of one means the denial of the other, the denial of one also means the assertion of the other. Not only *He is alive* means "He is not dead", *He is not alive* also means "He is dead". There is no intermediate ground between the two. A man cannot be neither alive nor dead. The Chinese expression 半死不活 can only be used for somebody who is still alive. If he is really not alive, then he is dead completely, not just half-dead. In other words, it is a question of two term choice: yes or no; not a multiple choice, a choice between more or less. So the adjectives in this type cannot be modified by *very*. One cannot say somebody is *very alive* or *very dead*. And they do not have comparative or superlative degrees either. The saying *He is more dead than alive* is not a true comparative. The sentence actually means "It is more correct to say that he is dead than to say he is alive". After all we do not say *John is more dead than Peter*. An example supporting this view is that we can say *John is more mad than stupid* in the sense that "It is more correct to say John is mad than to say John is stupid". The word *mad* is not used in the comparative degree, since its comparative form is *madder*.

To some extent, this difference between the gradable and the complementary can be compared to the traditional logical distinction between the contrary and the contradictory. In logic, a proposition is the contrary of another if both cannot be true, though they may both be false; e. g. *The coffee is hot* and *The coffee is cold*. And a proposition is the contradictory of another if it is impossible for both to be true, or false; e. g. *This is a male cat* and *This is a female cat*. In a diagram form this difference may be represented as follows:



gradable/contrary



complementary/contradictory

Figure 5-2

Secondly, the norm in this type is absolute. It does not vary with the thing a word is applied to. The same norm is used for all the things it is applicable to. For example, the criterion for separating the male from the female is the same with human beings and animals. There will be no such a situation that a creature is male by the standard of human being, but female by the standard of animal. And the death of a man is the same as that of an elephant, or even a tree, in the sense that there is no longer any life in the entity. If anything, the difference between the death of a man and that of a tree is a matter of kind, not of degree.

Thirdly, there is no cover term for the two members of a pair. If you do not know the sex of a baby, you ask "Is it a boy or a girl?" not "How male is it?" The word *male* can only be used for boys, it cannot cover the meaning of *girl*. As a matter of fact, no adjective in this type can be modified by *how*. This is related to the fact that they are not modifiable by words like *very*.

Now the pair of antonyms *true*; *false* is exceptional to some extent. This pair is usually regarded as complementary. *True* equals *not false*, and *not true* equals *false*. But there is a cover term. We can say "How true is the story?" And there is a noun *truth*, related to this cover term. We can also use *very* to modify *true*. It even has comparative and superlative degrees. A description may be *truer* than another, or is the *truest* among a number of descriptions, though *false* cannot be used in this way.

(3) Converse antonymy

Pairs of words like *buy*; *sell*, *lend*; *borrow*, *give*; *receive*, *parent*; *child*, *husband*; *wife*, *host*; *guest*, *employer*; *employee*, *teacher*; *student*, *above*; *below*, *before*; *after* belong to this type of antonymy. This is a special type of antonymy in that the members of a pair do not constitute a positive-negative opposition. They show the reversal of a relationship between two entities. *X buys something from Y* means the same as *Y sells something to X*. *X is the parent of Y* means the same as *Y is the child of X*. It is the same relationship seen from two different

angles. This type of antonymy is typically seen, as the examples show, in reciprocal social roles, kinship relations, temporal and spatial relations. It is in this sense that they are also known as RELATIONAL OPPOSITES. There are always two entities involved. One presupposes the other. This is the major difference between this type and the previous two.

With gradable, or complementary, antonyms, one can say "X is good", or "X is male", without presupposing Y. It is, as it were, a matter of X only, which has nothing to do with Y. But with converse antonyms, there are always two sides. If there is a buyer, there must also be a seller. A parent must have a child. Without a child, one cannot be a parent. If X is above Y, there must be both X and Y. Without Y, one cannot talk about the aboveness of X. And one cannot simply say "He is a husband". One must say whose husband he is. Similarly, one cannot simply say "He is a son" without mentioning his parents. Now some people may argue that we can say "He is a child". However, this is a different sense of *child*. The word *child* here means "somebody under the age of 18". In this sense, it is opposite to *adult*. When a man is above 18, he is no longer a child. In contrast, used in the sense of *child* opposite to *parent*, a man is always a child to his parents. Even when he is 80, he is still a child to his father and mother. Another word which may cause some trouble is *teacher*. It can be used in the sense of a profession. So one can say "He is a teacher", as against any other occupation, such as, journalist, writer, actor, musician, or doctor. In the sense opposite to *student*, however, a man is a teacher only to his students. To other people, he is not a teacher. And to his own teacher, he becomes a student.

The comparative degrees like *bigger*; *smaller*, *longer*; *shorter*, *better*; *worse*, *older*; *younger* also belong here, since they involve a relation between two entities.

5.3.3 Hyponymy

The term HYPONYMY is of recent creation, which has not found its way to some small dictionaries yet. But the notion of meaning inclusiveness is not new. For example, the meaning of *desk* is included in that of *furniture*, and the meaning of *rose* is included in that of *flower*. In other words, hyponymy is a matter of class membership. The upper term in this sense relation, i. e. the class name, is called SUPERORDINATE, and the lower terms, the members, HYPONYMS. A superordinate usually has several hyponyms. Under *flower*, for example, there are *peony*, *jasmine*, *chrysanthemum*, *tulip*, *violet*, *carnation* and many others apart from *rose*. These members of the same class are CO-HYPONYMS.

Sometimes a superordinate may be a superordinate to itself. For instance, the word *animal* may only include beasts like *tiger*, *lion*, *elephant*, *cow*, *horse* and is a co-hyponym of *human*. But it is also the superordinate to both *human* and *animal* in contrast to *bird*, *fish*, and *insect*, when it is used in the sense of *mammal*. It can still further be the superordinate to *bird*, *fish*, *insect* and *mammal* in contrast to *plant*.

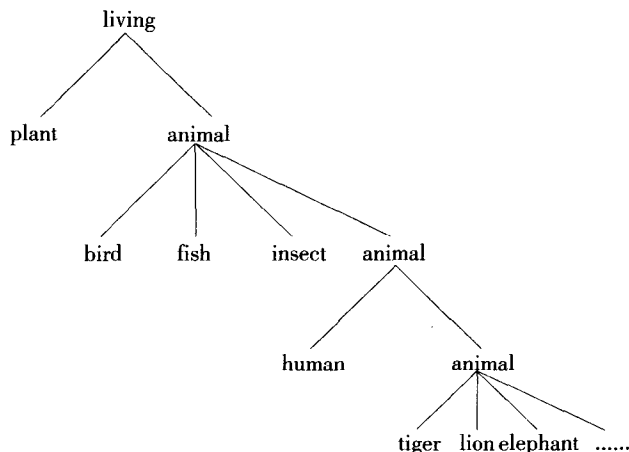


Figure 5-3

From the other point of view, the hyponym's point of view, *animal* is a hyponym of itself, and may be called auto-hyponym.

A superordinate may be missing sometimes. In English there is no superordinate for the colour terms *red*, *green*, *yellow*, *blue*, *white*, etc. The term *colour* is a noun, which is not of the same part of speech as the member terms. And the term *coloured* does not usually include *white* and *black*. When it is used to refer to human races, it means "non-white" only. The English words *beard*, *moustache* and *whiskers* also lack a superordinate, the most likely candidate being *hair on the face*.

Hyponyms may also be missing. In contrast to Chinese, there is only one word in English for the different kinds of uncles: 伯伯、叔叔、舅舅、姑父、姨父. The word *rice* is also used in the different senses of 稻、谷、米、饭.

5.4 Componential Analysis

In the discussion so far, we have been treating meaning as a property of the word, in line with the traditional approach. In what follows we shall introduce

some modern approaches to the study of meaning. And this section is devoted to a discussion of meaning in terms of units smaller than the word meaning, while the next section will be concerned with the meaning of a unit larger than the word, namely, the sentence.

On the analogy of distinctive features in phonology, some linguists suggest that there are SEMANTIC FEATURES, or SEMANTIC COMPONENTS. That is, the meaning of a word is not an unanalysable whole. It may be seen as a complex of different semantic features. There are semantic units smaller than the meaning of a word. For example, the meaning of the word *boy* may be analysed into three components: HUMAN, YOUNG and MALE. Similarly *girl* may be analysed into HUMAN, YOUNG and FEMALE; *man* into HUMAN, ADULT and MALE; and *woman* into HUMAN, ADULT and FEMALE.

To be economical, we can combine together some semantic components. The components YOUNG and ADULT may be combined together as ADULT, with YOUNG represented as $\sim$ ADULT; MALE and FEMALE may be combined together as MALE, with FEMALE represented as $\sim$ MALE. Words like *father*, *mother*, *son* and *daughter*, which involve a relation between two entities, may be shown as follows:

father = PARENT (x , y) & MALE (x)^①

mother = PARENT (x , y) & $\sim$ MALE (x)

son = CHILD (x , y) & MALE (x)

daughter = CHILD (x , y) & $\sim$ MALE (x)

Verbs can also be analysed in this way, for example,

take = CAUSE (x , (HAVE (x , y)))^②

give = CAUSE (x , ($\sim$ HAVE (x , y)))

die = BECOME (x , ($\sim$ ALIVE (x)))

kill = CAUSE (x , (BECOME (y ($\sim$ ALIVE (y))))

murder = INTEND (x , (CAUSE x , (BECOME (y , ($\sim$ ALIVE (y))))))

It is claimed that by showing the semantic components of a word in this way, we may better account for sense relations. Two words, or two expressions, which have the same semantic components will be synonymous with each other. For example, *bachelor* and *unmarried man* are both said to have the components of

① This is a usual expression in logic. In plain English, it means "x is a parent of y, and x is male".

② This expression means "x causes x to have y".

HUMAN, ADULT, MALE and UNMARRIED, so they are synonymous with each other. Words which have a contrasting component, on the other hand, are antonyms, such as, *man* and *woman*, *boy* and *girl*, *give* and *take*. Words which have all the semantic components of another are hyponyms of the latter, e.g. *boy* and *girl* are hyponyms of *child* since they have all the semantic components of the other, namely, HUMAN and ~ADULT.

These semantic components will also explain sense relations between sentences. For example, (a), (b) and (c) below are all self-contradictory, as there are words, or expressions, which have contradictory semantic components in them.

Ex. 5 - 1

- a. * John killed Bill but Bill didn't die.
- b. * John killed Bill but he was not the cause of Bill's death.
- c. * John murdered Bill without intending to.

But a more important sense relation between sentences is entailment, exemplified by the (a) and (b) sentences in ex. 5 - 2, 3, and 4.

Ex. 5 - 2, 3 and 4

2. a. John killed Bill.
b. Bill died.
3. a. I saw a boy.
b. I saw a child.
4. a. John is a bachelor.
b. John is unmarried.

The member sentences of each pair are in such a relationship that the truth of the second sentence necessarily follows from the truth of the first sentence, while the falsity of the first follows from the falsity of the second. In terms of semantic components, we can say it is because (a) sentences contain words which have all the semantic components of a word used in (b) sentences. ①

① There seems to be an exception as shown by the sentences in (1) below. (1a) entails (1b), but *boys* has all the semantic components of *children*, not the other way round. However, this exception is more apparent than real. This entailment comes from the use of *all* rather than the sense relation between *boys* and *children*. If *some children*, or *children*, is used in (1a), it will no longer entail (1b), which is also born out by the sentences in (2).

- (1) a: All children are a nuisance.
b: Boys are a nuisance.
- (2) a: He likes all fruit.
b: He likes apple.

Now there are also difficulties in the approach to analyse the meaning of a word in terms of semantic components. One difficulty is that many words are polysemous. They have more than one meaning, consequently they will have different sets of semantic components. A case in point is the word "man", which is usually said to have a component MALE. But it may also be used in a generic sense as in *Man is mortal*, which applies to both sexes. Secondly, some semantic components are seen as binary taxonomies. MALE and FEMALE is one, and ADULT and YOUNG is another. But as we have learnt in the discussion of antonymy above, the opposition between MALE and FEMALE is different from that between ADULT and YOUNG. The former is absolute while the latter is relative. In English, though both *boy* and *girl* are marked as YOUNG or $\sim$ ADULT, the distinction between *boy* and *man* is very different from that between *girl* and *woman*. Very often, the former distinction is relatively clear-cut while the latter is rather vague. There is a considerable overlap between *girl* and *woman*. A female person may often be referred to by both.

Thirdly, the examples we have seen are only concerned with the neatly organized parts of the vocabulary. There may be words whose semantic components are difficult to ascertain. Then there is the question of whether they are really universal, whether the vocabulary of every language may be analysed in this way. And even if the answers to these questions are all positive, there is still the question of how to explain the semantic components themselves. As it stands, semantic components like HUMAN, ADULT, MALE are not ordinary words of English, they belong to a META-LANGUAGE, a language used for talking about another language. The attempt to explain the meaning of *man* in terms of these components is simply a translation from English to the meta-language. To someone who does not know the meta-language, this translation explains nothing.

5.5 Sentence Meaning

The meaning of a sentence is obviously related to the meanings of the words used in it. But it is also obvious that the former is not simply the sum total of the latter. Sentences using the same words may mean quite differently if they are arranged in different orders. For example,

Ex. 5 - 5

The man chased the dog.

The dog chased the man.

Even when two sentences mean similarly as ex. 5 - 6, there is still the difference in what Leech(1974) calls thematic meaning.

Ex. 5 - 6

I've already seen that film.

That film I've already seen.

With sentences like ex. 5 - 7, we need not only know the linear order of a sentence, but also the hierarchical structure.

Ex. 5 - 7

The son of Pharaoh's daughter is the daughter of Pharaoh's son.

This shows that to understand a sentence, we need also knowledge about its syntactic structure. In other words, this is an area where word meaning and sentence structure come together.

5.5.1 An Integrated Theory

The idea that the meaning of a sentence depends on the meanings of the constituent words and the way they are combined is usually known as the principle of COMPOSITIONALITY. Some 40 years ago, a theory which tries to put this principle into practice was advanced by J. Katz and his associates in the framework of transformational grammar.

In 1963, Katz and Fodor wrote an article "The Structure of a Semantic Theory", arguing forcibly that semantics should be an integral part of grammar, if, as Chomsky claims, grammar is to be a description of the ideal speaker-hearer's knowledge of his language. And they set out to describe in some detail the internal structure of the semantic component. In the following year, Katz and Postal further elaborated their proposal in "An Integrated Theory of Linguistic Description".

Their basic idea is that a semantic theory consists of two parts: a dictionary and a set of projection rules. The dictionary provides the grammatical classification and semantic information of words. The grammatical classification is more detailed than the traditional parts of speech. For example, *hit* is not just a verb, but a transitive verb, written as Vtr; *ball* is not just a noun, but a concrete noun, written as Nc. Terms like Vtr and Nc are called grammatical markers, or syntactic markers. The semantic information is further divided into two sub-types: the information which has to do with the more systematic part, or is of a more general nature, is shown by semantic markers, such as (Male), (Female), (Human), (Animal). The information which is more idiosyncratic, word-specific, is shown by distinguishers. For example, the word *bachelor* has the following distinguishers:

- a. [who has never married]
- b. [young knight serving under the standard of another knight]
- c. [who has the first or lowest academic degree]
- d. [young fur seal when without a mate during the breeding time]

The projection rules are responsible for combining the meanings of words together. In Chomsky's theory a sentence like *The man hits the colorful ball* will have a syntactic description as follows.

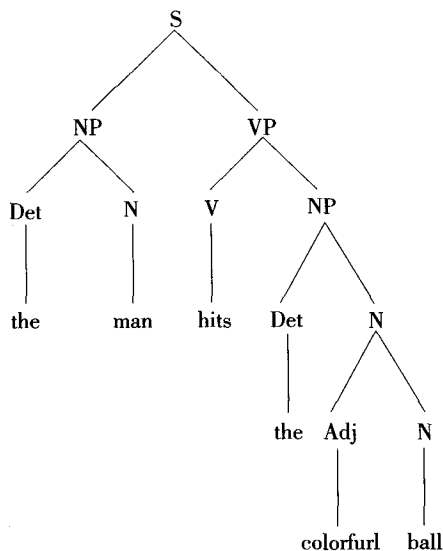


Figure 5-4

The semantic description of this sentence, Katz and his associates suggest, is built on this basis. That is, they will first combine the meanings of *colorful* and *ball*, then those of *the* and *colorful ball*, and *hits* and *the colorful ball*, and so on. This effectively provides a solution to the integration of syntax and semantics. Sentences made up of the same words but in different orders like ex. 5-5 above will surely be given different semantic interpretations.^①

However, there are problems in this theory. First, the distinction between semantic marker and distinguisher is not very clear. Katz and Fodor themselves

① In order to block the generation of sentences like *Colorless green ideas sleep furiously*, they also introduce some selection restrictions as constraints on the combination process. But the details are a little too complicated, and we decide to leave them out in this edition.

pointed out that the feature (Young) in the dictionary entry for *bachelor*, which we quoted earlier, was included in a distinguisher, but it could be regarded as a semantic marker, since it represents something general. In Katz and Postal (1964: 14), even (Never Married), (Knight), (Seal) are treated as semantic markers. And eventually Katz dropped this distinction completely.

Second, there are cases in which the collocation of words cannot be accounted for by grammatical markers, semantic markers or selection restrictions. Katz and Fodor (1971 [1963]: 513) argue that features (Male), (Female) are involved in the different acceptability of *The girl gave her own dress away* and * *The girl gave his own dress away*. Presumably, they would also say the acceptability of *He said hello to the nurse and she greeted back* shows that *nurse* has a feature (Female). But *My cousin is a male nurse* is a perfectly normal sentence while *My cousin is a female nurse* is decidedly odd.

The most serious defect concerns the use of semantic markers like (Human) and (Male), which, more usually called semantic components as we mentioned in the last section, are elements of an artificial meta-language. To explain the meaning of *man* in terms of (Human), (Male) and (Adult), one must go on to explain the meaning of these semantic markers themselves, otherwise it means nothing.

5.5.2 Logical Semantics

Philosophers and logicians are among the first people to study meaning, as we mentioned at the beginning of this chapter. While traditional grammarians were more concerned with word meaning, philosophers have been more concerned with sentence meaning. In this sub-section, we introduce some of their basic ideas, especially the concepts in propositional logic and predicate logic.

PROPOSITIONAL LOGIC, also known as propositional calculus or sentential calculus, is the study of the truth conditions for propositions; how the truth of a composite proposition^① is determined by the truth value of its constituent propositions and the connections between them. According to Lyons (1977: 141 - 2), "A proposition is what is expressed by a declarative sentence when that sentence is uttered to make a statement." In this sense, we may very loosely equate the proposition of a sentence with its meaning.

A very important property of the proposition is that it has a truth value. It is

① J. Lyons (1995) has introduced this term to cover both compound and complex propositions.

either true or false. And the truth value of a composite proposition is said to be the function of, or is determined by, the truth values of its component propositions and the logical connectives used in it. For example, if a proposition p is true, then its negation $\sim p$ is false. And if p is false, then $\sim p$ is true. The letter p stands for a simple proposition; the sign $\sim$, also written as $\neg$, is the logical connective negation; and $\sim p$, signalling the negation of a proposition, is a composite proposition. There are four other logical connectives: conjunction $\&$, disjunction $\vee$, implication $\rightarrow$ and equivalence $\equiv$. They differ from negation in that two propositions are involved, hence the name two-place connective. In contrast, negation $\sim$ is known as one-place connective. The truth tables for the two-place connectives are as follows:

Table 5-2

p	q	$p \& q$	$p \vee q$	$p \rightarrow q$	$p \equiv q$
T	T	T	T	T	T
T	F	F	T	F	F
F	T	F	T	T	F
F	F	F	F	T	T

The logical connective conjunction, also symbolized as $\wedge$, corresponds to the English “and”. The truth table for it shows that when both p and q are true, the formula $p \& q$ will be true. This is both a necessary and a sufficient condition. That is, only when and as long as both conjuncts are true, the composite proposition will be true.

The connective disjunction corresponds to the English “or”. Its truth table shows that only when and as long as one of the constituents is true, the composite proposition will be true.

The connective implication, also known as conditional, corresponds to the English “if... then”. Its truth table shows that unless the antecedent is true and the consequent is false, the composite proposition will be true.

And the last logical connective equivalence, also called biconditional and symbolized as $\longleftrightarrow$, is a conjunction of two implications. That is, $p \equiv q$ equals $(p \rightarrow q) \& (q \rightarrow p)$. It corresponds to the English expression “if and only if... then”, which is sometimes written as “iff... then”. The condition for the composite proposition to be true is that if and only if both constituent propositions are of the same truth value, whether true or false.

Now one may notice immediately that the truth functions of the logical connectives are not exactly the same as their counterparts in English—“not”, “and”, “or”, “if... then”, “if and only if... then” respectively.

We mentioned in Section 5.3.2 that antonyms are of different types. With complementary antonyms, it is true that the denial of one is the assertion of the other. With gradables, however, that is not necessarily the case. When *John isn't old* is false, its negation *John is old* is not necessarily true.

And the truth table for conjunction shows that if two propositions p and q are both true, then the composite proposition made up of them, $p \& q$, will definitely be true. The order of the constituent propositions is not important. But *and* in English is used in a different way. The sentence *He arrived late and missed the train* may be true in a situation while *He missed the train and arrived late* may not, though both of their constituent propositions may be true.

The difference between the implication connective $\rightarrow$ and "if... then" is even greater. The logical connective takes no account of the nature of the relation between the antecedent and the consequent. The truth table shows that as long as two propositions are both true, the composite proposition made up of them, $p \rightarrow q$, is true. That is, any true proposition would imply any other true proposition. Not only the composite proposition *If he is an Englishman, he speaks English* is valid in logical terms, but that *If snow is white, grass is green* is also valid. What is more, according to the truth table a composite proposition will be true, as long as its consequent is true. In other words, even a false antecedent proposition may imply a true consequent proposition, such as, *If snow is black, grass is green*. In a natural language, however, there must be some causal or similar relationship between the two. The composite proposition *If snow is white, grass is green* sounds odd. And nobody would accept *If snow is black, grass is green* in daily conversation. If one wants to make a counterfactual proposition, then he would have to use the subjunctive mood, e. g. *If snow were black, grass would be red*.

As is shown, propositional logic, concerned with the semantic relation between propositions, treats a simple proposition as an unanalyzed whole. This is inadequate for the analysis of valid inferences like the syllogism below:

Ex. 5 - 8

All men are rational.

Socrates is a man.

Therefore, Socrates is rational.

To explain why these inferences are valid, we need to turn to PREDICATE LOGIC, also called PREDICATE CALCULUS, which studies the internal structure of simple propositions. In this logical system, propositions like *Socrates*

is a man will be analyzed into two parts: argument^① and predicate. An argument is a term which refers to some entity about which a statement is being made. And a predicate is a term which ascribes some property, or relation, to the entity, or entities, referred to. In the proposition *Socrates is a man*, therefore, *Socrates* is the argument and *man* is the predicate. In logical terms, this proposition is represented as $M(s)$. The letter M stands for the predicate *man*, and s the argument *Socrates*. In other words, a simple proposition is seen as a function of its argument. The truth value of a proposition varies with the argument. When *Socrates* is indeed a man, $M(s)$ is true. On the other hand, as *Cupid* is an angel, the proposition represented by the logical formula $M(c)$ is false. If we use the numeral 1 to stand for "true" and 0 for "false", then we can represent these two examples as the formulas: $M(s) = 1$, $M(c) = 0$.

In *John loves Mary*, which may be represented as $L(j, m)$, we have two arguments *John* and *Mary*. If we classify predicates in terms of the number of arguments they take, then *man* is a one-place predicate, *love* a two-place predicate. And *give* is a three-place predicate in *John gave Mary a book*, the logical structure of which being $G(j, m, b)$. But propositions with two or more arguments may also be analyzed in the same way as those with one argument. *John loves Mary*, for example, may also be represented as $(Lm)(j)$ ^②, in which there is a complex predicate (Lm) , (consisting of a simple predicate *love* and an argument *Mary*) and a single argument *John*. And there are even suggestions that a predicate may take propositions^③ as arguments. A case in point is the componential analysis of words like *take*, *kill*. Recall that the componential analysis of *kill* is $CAUSE(x, (BECOME(y, (\sim ALIVE(y)))))$, which may be simplified now as $C(x, (B(y, (\sim A(y)))))$. That is, the predicate *cause* takes a simple argument x and a propositional argument y *becomes non-alive*. The latter itself may be analyzed as consisting of a predicate *become* and a propositional argument y *is non-alive*, which is itself made up of a predicate *non-alive* and a simple argument y .

Now propositions like *All men are rational* are different. First there is a quantifier *all*, known as the universal quantifier and symbolized by an upturned

① It is also referred to as "name" or "individual".

② This particular form of representation is the writer's, not conventionally used by logicians.

③ As will be pointed out in Note ② next page, these are not really propositions, since the relevant arguments do not refer to particular entities as proper nouns do.

A — $\forall$ in logic. Second, the argument *men* does not refer to any particular entity, which is known as a variable^① and symbolized by the last letters of the alphabet such as x , y . So *All men are rational* will be said to have a logical structure of $\forall x (M(x) \rightarrow R(x))$. In plain English it means “For all x , it is the case that, if x is a man, then x is rational”.

There is another quantifier—the existential quantifier, equivalent to *some* in English and symbolized by a reversed E — $\exists$. This is useful in the logical analysis of propositions like *Some men are clever*, which, for example, is represented as $\exists x (M(x) \& C(x))$. That is, “There are some x ’s that are both men and clever”, or more exactly, “There exists at least one x , such that x is a man and x is clever”.^②

Notice that the logical structures of these two types of quantified propositions not only differ in the quantifier but also in the logical connective: one uses the implication connective $\rightarrow$ and the other the conjunction connective $\&$. That is, the universal quantifier is conditional and does not presuppose the existence of an entity named by the argument. What it asserts is that if there is an entity as named then it will definitely have the property as specified. There is no exception to this rule. But the existential quantifier carries the implication that there must exist at least one such entity and it has the relevant property specified, otherwise that proposition is false. In fact the universal and existential quantifiers are related to each other in terms of negation. One is the logical negation of the other. *All men are rational* means the same as *There is no man who is not rational*, which in logical terms may be represented as: $\forall x (M(x) \rightarrow R(x)) \equiv \sim \exists x (M(x) \& \sim R(x))$. More generally, we can have the following equivalences.

$$\begin{aligned} (1) \quad & \forall x (P(x)) \equiv \sim \exists x (\sim P(x)) \\ & \sim \forall x (P(x)) \equiv \exists x (\sim P(x)) \\ & \exists x (P(x)) \equiv \sim \forall x (\sim P(x)) \end{aligned}$$

① In contrast, arguments expressed by proper nouns like *Socrates* are known as constants.

② The quantifiers are indispensable in expressions with variables. In logical terms, expressions like *Men are rational* are not acceptable. The argument *men* does not refer to a particular entity as *Socrates* does, therefore the expression does not have a truth value and is not a proposition proper. And such expressions are called open sentences, or sentential functions, propositional functions. So there are no ambiguous expressions like *Children are a nuisance* in logic, as we touched on in a note in section 5.4. In this sense, the logical formulas used in componential analysis like PARENT (x , y) & MALE (x) do not represent propositions, but propositional functions.

$$\sim \exists x (P(x)) \equiv \forall x (\sim P(x))$$

That is, "It is the case that all x 's have the property P " is equivalent to "There is no x , such that x does not have the property P "; "It is not the case that all x 's have the property P " is equivalent to "There is at least an x , such that x does not have the property P "; "There is at least an x , such that x has the property P " is equivalent to "It is not the case that all x 's do not have the property P "; and "There is no x , such that x has the property P " is equivalent to "It is the case that all x 's do not have the property P ".

When analyzed in this way, the validity of inferences like ex. 5 – 8 will be easily shown. That is, the logical structures of the three propositions involved are respectively:

$$(2) \forall x (M(x) \rightarrow R(x))$$

$$M(s)$$

$$\therefore R(s)$$

On the other hand, the following inferences are not valid. In (3), the antecedent and the consequent are reversed. An entity which is rational is not necessarily a man. In (4), the major premise is existential, which does not guarantee that any entity which is a man is clever.

$$(3) \forall x (M(x) \rightarrow R(x))$$

$$R(s)$$

$$\therefore M(s)$$

$$(4) \exists x (M(x) \& C(x))$$

$$M(s)$$

$$\therefore C(s)$$

The validity of inferences involving the universal and existential quantifiers may also be shown in terms of set theory. In the left figure below, the large circle represents the set of entities which are rational and the inner small circle represents the set of entities which are men. It is obvious that any entity which is a member of the set M is also a member of the set R , but not vice versa. That is, the set M is a subset of R . And this explains why (2) is valid, but (3) is not. The figure on the right represents the scope of the existential quantifier as E , which is the intersect of the two sets M and C . In other words, not all the members of the set M are members of the set C . And this is why (4) is invalid.

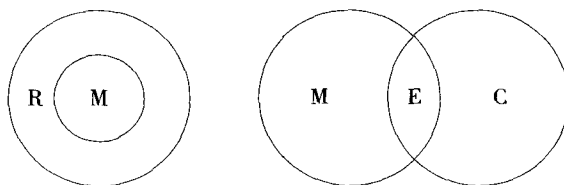


Figure 5-5

Now the analysis in terms of predicate logic is also divergent from that in natural languages. For one thing, common nouns like *man* in *Socrates is a man* are treated in the same way as adjectives like *rational* in *Socrates is rational* and verbs like *run* in *Socrates ran*. All three are one-place predicates, while in English they belong to three different word classes. For another, there are more quantifiers in natural languages than *all* and *some*, such as, *many*, *most*, *dozens of*, *several*, *a few* in English. But there is no adequate provision for them in predicate logic. The past 30 years have witnessed great developments in logical semantics. The American logician Richard Montague started to combine the study of logical languages with that of natural languages, and he succeeded in this attempt to some extent. However, his theory, known as Montague semantics, or Montague grammar, is very complicated. To go into it would require more advanced study of logical semantics, which is beyond the scope of the present book.

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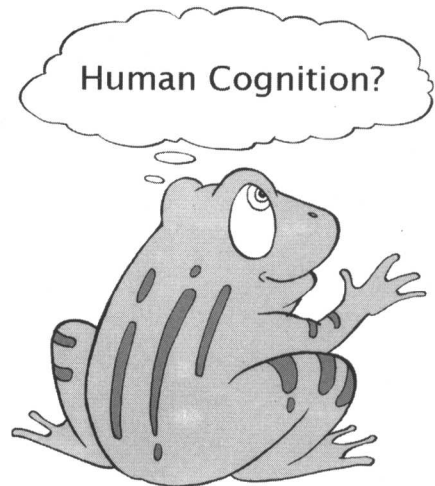
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Language and Cognition

In 1950s, Chomsky's publication of *Syntactic Structures* (1957) helped to ignite the cognitive revolution. Thereafter, much research had been conducted for understanding the relationship between language and cognition. In 1960s, Jean Piaget emphasized the commonalities between language and cognition, and proposed that language emerged out of the same broad cognitive changes that transform the sensorimotor processing of infants into the formal and logical mind of adults. In the 1970s and 1980s, there was a tendency for linguists to emphasize language and cognition as a special field (Cognitive Linguistics), and for psychologists to emphasize commonalities between language and cognition (Psycholinguistics and Psychology of Language).

6.1 What Is Cognition?

The term COGNITION is used in several different loosely related ways. In psychology it is used to refer to the mental processes of an individual, with particular relation to a view that argues that the mind has internal mental states (such as beliefs, desires and intentions) and can be understood in terms of information processing, especially when a lot of abstraction or concretization is involved, or processes such as involving knowledge, expertise or learning for example are



at work.^① Another definition of “COGNITION” is the mental process or faculty of knowing, including aspects such as awareness, perception, reasoning, and judgment^②.

There exist three approaches to the study of language and cognition: the formal approach, the psychological approach and the conceptual approach.

The formal approach basically addresses the structural patterns exhibited by the overt aspect of linguistic forms, largely abstracted away from or regarded as autonomous from any associated meaning. This approach includes the study of morphological, syntactic, and lexical structure.

The psychological approach looks at language from the perspective of relatively general cognitive systems ranging from perception, memory, attention to reasoning. It also investigates language both for its formal properties and for its conceptual properties. Thus, the latter kind of investigation has included analyses of semantic memory, the association of concepts, the structure of categories, inference generation, and contextual knowledge. However, these studies have largely remained within certain circumscribed areas.

The conceptual approach is concerned with the patterns in which and the processes by which conceptual content is organized in language. Since the term STRUCTURE will be used to refer both to patterns and to process, the conceptual approach can more simply be said to address how language structures conceptual content. COGNITIVE LINGUISTICS has addressed the structuring within language of such basic conceptual categories as those of space and time, scenes and event, entities and processes, motion and location, and force and causation. It has also addressed the linguistic structure of basic ideational and affective categories attributed to cognitive agents, such as attention and perspective, volition and intention, and expectation and affect. It addresses the semantic structure of morphological and lexical forms, as well as of syntactic patterns. And it addresses the interrelationships of conceptual structures, such as those in metaphoric mapping, those within a semantic frame, those between text and context, and those in the grouping of conceptual categories into large structuring systems. Above all, cognitive linguistics seeks to ascertain the global integrated system of conceptual structuring in language (Talmy 2000: 1 – 3).

The psychological approach and the conceptual approach to the study of language and cognition will be mainly discussed in the following sections. In

① from: en.wikipedia.org/wiki/Cognition.

② from: www.geocities.com/seaskj/glossary.html.

other words, psycholinguistics and cognitive linguistics will be focused on in this chapter.

6.2 What Is Psycholinguistics?

PSYCHOLINGUISTICS is the study of psychological aspects of language; it usually studies the psychological states and mental activity associated with the use of language. Most problems in psycholinguistics are more concrete, involving the study of language acquisition especially in children and linguistic performance such as producing and comprehending utterances or sentences among adults. An important focus of psycholinguistics is the largely unconscious application of grammatical rules that enable people to produce and comprehend intelligible sentences. Psycholinguists investigate the relationship between language and thought, a perennial subject of debate being whether language is a function of thinking or thought a function of the use of language. Psycholinguistics is also concerned with how languages are learned, and the role they play in our thinking.

As an interdisciplinary study of language and psychology, psycholinguistics has its roots in structural linguistics on the one hand, and in cognitive psychology on the other hand. It is also closely related to a set of other disciplines, such as anthropology, or the neurosciences. The work of Chomsky and other proponents of transformational grammar have had a marked influence on the field. In the 1960s and early 1970s numerous psychologists and linguists used the transformational-generative model proposed by Chomsky to discover how children come to know the grammatical processes that underlie the speech they hear and to investigate the processing and comprehension of language; spoken or written. And now, psycholinguistics has been turning increasingly to other functionally related and socially oriented models of language structure. Experts use experiments to investigate such topics as short-term and long-term memory, perceptual strategies, speech perception based on linguistic models, the brain activity involved in language use, and language impaired due to brain damage, cognition and language.

It is customary to distinguish six subjects of research within psycholinguistics: 1) Acquisition; how does a child acquire the language skills (first language acquisition) and how are they extended to other languages (second/foreign language acquisition)? 2) Comprehension; how is the acoustic or visual signal linguistically interpreted by the hearer or reader? 3) Production;

how is the information that somebody wants to convey transformed into acoustic waves, or written characters? 4) Disorders: what causes the occurrence of transient or more permanent disturbances of the speech and language processing systems? 5) Language and thought: what role does human language play in thinking? And what differences do different languages make to how we think? 6) Neurocognition: how is the cognitive architecture of language and language processing implemented in the human brain, i. e., what is the cerebral-functional architecture of our language faculty? Here, we will focus on the former three subjects, say, acquisition, comprehension and production.

6.2.1 Language Acquisition

LANGUAGE ACQUISITION is one of the central topics in psycholinguistics. Possessing a language is the quintessentially human trait: all normal humans speak, no nonhuman animal does. Learning a first language is something every child does successfully, in a matter of a few years and without the need for formal lessons. With language so close to the core of what it means to be human, it is not surprising that children's acquisition of language has received so much attention. Anyone with strong views about the human mind would like to show that children's first few steps are steps in the right direction.

In the field of language acquisition, scholars kept diaries of children's speech for their research data. Charles Darwin, the founder of Evolution Theory, for example, was one of the first keeping the diary of his son's speech development. In the late 1950s, the portable tape-recorders became available for analyzing children's spontaneous speech systematically. Today, these naturalistic studies of children's spontaneous speech have become even more accessible that they can be put into computer files and can be disseminated and analyzed automatically.

(1) Holophrastic stage

Language acquisition begins very early in the human lifespan, and begins, with the acquisition of a language's sound patterns. The main linguistic accomplishments during the first year of life are control of the speech musculature and sensitivity to the phonetic distinctions used in the parents' language.



Shortly before their first birthday, babies begin to understand words, and

around that birthday, they start to produce them. Words are usually produced in isolation; this one-word stage can last from two months to a year. Children's first words are similar all over the planet. About half the words are for objects: food (*juice, cookie*), body parts (*eye, nose*), clothing (*diaper, sock*), vehicles (*car, boat*), toys (*doll, block*), household items (*bottle, light*), animals (*dog, kitty*), and people (*dada, baby*). There are words for actions, motions, and routines, like *up, off, open, eat*, and *go*, and modifiers, like *hot, allgone, more, dirty*, and *cold*. Finally, there are routines used in social interaction, like *yes, no, want, bye-bye*, and *hi*—a few of which, like *look at that* and *what is that*, are words in the sense of memorized chunks, though they are not single words for the adult. Children differ in how much they name objects or engage in social interaction using memorized routines, though all children do both.



(2) Two-word stage

Around 18 months, language changes in two ways. Vocabulary growth increases; the child begins to learn words at a rate of one every two waking hours, and will keep learning that rate or faster through adolescence. And primitive syntax begins, with two-word strings like the following:

Ex. 6-1

Two-word strubgs

<i>All dry</i>	<i>All messy</i>	<i>All wet</i>
<i>I sit</i>	<i>I shut</i>	<i>No bed</i>
<i>No pee</i>	<i>See baby</i>	<i>See pretty</i>
<i>More cereal</i>	<i>More hot</i>	<i>Hi Calico</i>
<i>Other pocket</i>	<i>Boot off</i>	<i>Siren by</i>
<i>Mail come</i>	<i>Airplane allgone</i>	<i>Byebye car</i>
<i>Our car</i>	<i>Papa away</i>	<i>Dry pants</i>

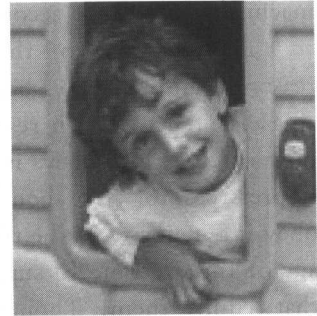
Children's two-word combinations are highly similar across cultures. Everywhere, children announce when objects appear, disappear, and move about, point out their properties and owners, comment on people doing things and seeing things, reject and request objects and activities, and ask about who, what, and where. These sequences already reflect the language being acquired: in 95% of them, the words are properly ordered.

Even before they put words together, babies can comprehend a sentence using its syntax. For example, in one experiment, babies who spoke only in

single words were seated in front of two television screens, each of which featured a pair of adults dressed up as Cookie Monster and Big Bird from *Sesame Street*. One screen showed Cookie Monster tickling Big Bird; the other showed Big Bird tickling Cookie Monster. A voice-over said, "OH LOOK!!! BIG BIRD IS TICKLING COOKIE MONSTER!! FIND BIG BIRD TICKLING COOKIE MONSTER!!" The children must have understood the meaning of the ordering of subject, verb, and object, because they looked more at the screen that depicted the sentence in the voice-over.

(3) Stage of three-word utterances

Children's two- and three-word utterances look like samples drawn from longer potential sentences expressing a complete and more complicated idea. An expert in the field of language development Roger Brown noted that although the three children he studied never produced a sentence as complicated as *Mother gave John lunch in the kitchen*, they did produce strings containing all of its components in the correct order; (Brown, 1973: 205):



Ex. 6 - 2

3-word strings

Agent	Action	Recipient	Object	Location
<i>Mother</i>	<i>gave</i>	<i>John</i>	<i>lunch</i>	<i>in the kitchen.</i>
	<i>Give</i>	<i>doggie</i>	<i>paper.</i>	
	<i>Put</i>		<i>truck</i>	<i>window.</i>
<i>Tractor</i>	<i>go</i>		<i>floor.</i>	
<i>Adam</i>	<i>put</i>		<i>it</i>	<i>box.</i>

(4) Fluent grammatical conversation stage

Between the late two-word and mid-three-word stage, children's language blooms into fluent grammatical conversation rapidly, sentence length increases steadily. Because grammar is a combinatorial system, the number of syntactic types increases exponentially, doubling every month, reaching the thousands before the third birthday. Normal children can differ by a year or more in their rate of language development, though the stages they pass through are generally the same regardless of how stretched out or compressed and many children speak in complex sentences before they turn two.

During the grammar explosion, children's sentences are getting not only longer but also more complex, and, they can embed one constituent inside another. Whereas before they might have said *Give doggie paper* (a three-branch

Verb Phrase) and *Big doggie* (a two-branch Noun Phrase), they now say *Give big doggie paper*, with the two-branch NP embedded inside the three-branch VP. The earlier sentences resembled telegrams, missing unstressed function words like *of*, *the*, *on*, and *does*, as well as inflections like *-ed*, *-ing*, and *-s*. By the 3, children can use these function words more often than they omit them in more than 90% of the sentences that require them. A full range of sentence types flower—questions with words like *who*, *what* and *where*, relative clauses, comparatives, negations, complements, conjunctions, and passives. These constructions appear to display the most, perhaps even all, of the grammatical machinery needed to account for adult grammar.

Though many of the 3-year-old's sentences are ungrammatical for one reason or another, it is because there are many things that can go wrong in any single sentence. When researchers focus on a single grammatical rule and count how often a child obeys it and how often he or she flouts it, the results are very impressive: for just about every rule that has been looked at, three-year olds obey it a majority of the time. Children rarely scramble word orders and, by the age of three, come to supply most inflections and function words in sentences that require them. Though our ears perk up when we hear errors like *mens*, *wents*, *Can you broke those?*, *What he can ride in?*, *That's a furniture*, *Button me the rest*, and *Going to see kitten*, the errors occur in anywhere from 0.1% to 8% of the opportunities for making them; more than 90% of the time, the child is on target.

Children do not seem to favor any particular kind of language. They swiftly acquire free word order, SOV and VSO orders, rich systems of case and agreement, strings of agglutinated suffixes, ergative case marking, and whatever else their language throws at them. Even grammatical gender, which many adults learning a second language find mystifying, presents no problem: children acquiring language acquire gender marking quickly, make few errors. It is safe to say that except for constructions that are rare, predominantly used in written language, or mentally taxing even to an adult (like *The horse that the elephant tickled kissed the pig*), all parts of all languages are acquired before the child turns four!

6.2.2 Language Comprehension

Humans can understand sentences that carry novel messages in a way that is exquisitely sensitive to the structure of the language. For example, we can interpret the sentences *The umpire helped the child to third base* and *The umpire helped the child on third base* as conveying distinct messages, and we know that *He*

showed her baby the pictures and *He showed her the baby pictures* describe quite different events.

From a psycholinguistic point of view, we store a great deal of information about the properties of words in our *mental lexicon*, and retrieve this information when we understand language. For example, we may use morphological rules to decompose a complex word like *rewritable* the first few times we encounter it and after several exposures we may store and access it as a unit or word. It means that frequency of exposure determines our ability to recall stored instances. Connectionism in psycholinguistics (Rumelhart & McClelland, 1986) claims that readers use the same system of links between spelling units and sound units to generate the pronunciations of written words like *love* and to access the pronunciations of familiar words like *stove*, or words that are exceptions to these patterns, like *love*. In this view, similarity and frequency both play important roles in processing and comprehending language, with the novel items being processed based on their similarity to the known ones.

In this section, the comprehension of spoken and written language by fluent language users will be described. The focus will be on core processes of language comprehension such as word retrieval and recognition, sentence parsing and textual interpretation.

(1) Word recognition

Word lays in the central position in language comprehension because of its extremely important role in transmitting the meaning. Word recognition can be viewed in terms of recognition of spoken words and printed ones.

The perception of spoken words is an important task for a language user. It seems that human is well adapted for the perception of speech because we usually seem to perceive speech automatically and with little effort. Speech is distributed in time, a fleeting signal that has few reliable cues to the boundaries between sound segments and words. How listeners hear a sequence of discrete units even though the acoustic signal itself is continuous is the core question in this subfield of psycholinguistics. Features of speech could cause difficulty for listeners, for example, some phonemes may be omitted in conversational speech, some may change their pronunciations depending on the surrounding sounds (e.g., /n/ may be pronounced as /m/ in *lean bacon*), and many words have “everyday” pronunciations (e.g., *going to* frequently becomes *gonna*). Listeners attempt to map the acoustic signal onto a representation in the mental lexicon almost as the signal starts to arrive. According to *cohort model* proposed by Marslen-Wilson and Welsh in 1990, the first few phonemes of a spoken word activate a set or cohort of word candidates that are consistent with the input. These candidates compete

with one another for activation. As more acoustic input is analyzed, candidates that are no longer consistent with the input drop out of the set. This process continues until only one word candidate matches the input; the best fitting word may be chosen if no single candidate is a clear winner. For example, to an instruction "*pick up the candle*" listeners sometimes glance first at a picture of a candle. This suggests that a set of words beginning with /kæn/ is briefly activated. Listeners may glance at a picture of a handle, too, suggesting that the cohort of word candidates also includes words that rhyme with the target. The *interactive model* holds that higher processing levels have a direct, "top-down" influence on lower levels. Lexical knowledge can affect the perception of phonemes. There is interactivity in the form of lexical effects on the perception of sub-lexical units. In certain cases, listeners' knowledge of words can lead to the inhibition of certain phonemes; in other cases, listeners continue to "hear" phonemes that have been removed from the speech signal and replaced by noise. The *race model* does not agree "top-down" effects, it has two routes that race each other—a pre-lexical route, which computes phonological information from the acoustic signal, and a lexical route, in which the phonological information associated with a word becomes available when the word itself is accessed. When word-level information appears to affect a lower-level process, it is assumed that the lexical route won the race.

Listeners' knowledge of language and its patterns facilitates perception in some ways. For example, listeners use phonotactic information such as the fact that initial /tl/ is illegal in English to help identify phonemes and word boundaries. Listeners also use their knowledge that English words are often stressed on the first syllable to help parse the speech signal into words. These types of knowledge help us solve the segmentation problem in a language that we know.

Print serves as a map of linguistic structure, readers use the clues to morphological structure that are embedded in orthography in reading the printed words. For example, they know that the prefix *re-* can stand before free morphemes such as *print* and *do*, yielding the two-morpheme words *reprint* and *redo*. Encountering *vive*, readers may wrongly judge it to be a word because of its familiarity with *revive*. Phonology and other aspects of linguistic structure are retrieved in reading. In printed word recognition, there is a question about how linguistic structure is derived from print. One idea is that two different processes are available for converting orthographic representations to phonological representations. A lexical route is used to look up the phonological forms of known words in the mental lexicon; this procedure yields correct pronunciations

for exception words such as *love*. A non-lexical route accounts for the productivity of reading: It generates pronunciations for novel letter strings (e.g., *tove*) as well as for regular words (e.g., *stove*) on the basis of smaller units. This latter route gives incorrect pronunciations for exception words, so that these words may be pronounced slowly or erroneously (e.g., *love* said as /lʌv/) in speeded word naming tasks. Connectionist theories claim that a single set of connections from orthography to phonology can account for performance on both regular words and exception words.

Another question about orthography-to-phonology translation concerns its grain size. English, which has been the subject of much of the research on word recognition, has a rather irregular writing system. For example, *ea* corresponds to /i/ in *head* but /ɛ/ in *dead*; *c* is /k/ in *cat* but /s/ in *city*. Such irregularities are particularly common for vowels. Quantitative analyses have shown, however, that consideration of the consonant that follows a vowel can often help to specify the vowel's pronunciation. The /ɛ/ pronunciation of *ea*, for example, is more likely before *d* than before *m*. Such considerations have led to the proposal that readers of English often use letter groups that correspond to the syllable *rime* (the vowel nucleus plus an optional consonantal coda) in spelling-to-sound translation.

Because spoken words are spread out in time, spoken word recognition is generally considered a sequential process. With many printed words, though, the eyes take in all of the letters during a single fixation. The connectionist models of reading maintain that all phonemes of a word are activated in parallel. Dual-route models, in contrast, claim that the assembly process operates in a serial fashion such that the phonological forms of the leftmost elements are delivered before those for the succeeding elements. Although many questions remain to be answered, it is clear that the visual representations provided by print rapidly make contact with the representations stored in the mental lexicon. Once this contact has been made, it matters little whether the initial input was by eye or by ear. The principles and processing procedures are much the same.

(2) Comprehension of sentences

Important as word recognition is, understanding language requires far more than adding the meanings of the individual words together. We must combine the meanings in ways that honor the grammar of the language and that are sensitive to the possibility that language is being used in a metaphoric or non-literal manner. Psycholinguists have addressed the phenomena of sentence comprehension in different ways. SERIAL MODELS propose that the sentence comprehension system continually and sequentially follows the constraints of a

language's grammar with remarkable speed. Serial models describe how the processor quickly constructs one or more representations of a sentence based on a restricted range of information that is guaranteed to be relevant to its interpretation, primarily grammatical information. Any such representation is then quickly interpreted and evaluated, using the full range of information that might be relevant. PARALLEL MODELS emphasize that the comprehension system is sensitive to a vast range of information, including grammatical, lexical, and contextual, as well as knowledge of the speaker/writer and of the world in general. Parallel models describe how the processor uses all relevant information to quickly evaluate the full range of possible interpretations of a sentence. It is generally acknowledged that listeners and readers integrate grammatical and situational knowledge in understanding a sentence.

Structural factors in comprehension: Comprehension of written and spoken language can be difficult because it is not always easy to identify the constituents (phrases) of a sentence and the ways in which they relate to one another. Psycholinguists have proposed principles interpreting sentence comprehension with respect to the grammatical constraints. The most popular principle is "Minimal attachment" which defines "structurally simpler", and it claims that structural simplicity guides all initial analyses in sentence comprehension. In this view, the sentence processor constructs a single analysis of a sentence and attempts to interpret it. The first analysis is the one that requires the fewest applications of grammatical rules to attach each incoming word into the structure being built; it is the automatic consequence of an effort to get some analysis constructed as soon as possible. Consider the sentence *The second wife will claim the inheritance belongs to her*. When *the inheritance* first appears, it could be interpreted as either the direct object of *claim* or the subject of *belongs*. It was found that readers' eyes fixated for longer than usual on the verb *belongs*, which disambiguates the sentence. They interpreted this result to mean that readers first interpreted *the inheritance* as a direct object. Readers were disrupted when they had to revise this initial interpretation to the one in which *the inheritance* is subject of *belongs*. They described the readers as being led down a garden path because the direct object analysis is structurally simpler than the other possible analysis.

Lexical factors in comprehension: Psycholinguists have proposed that the human sentence processor is primarily guided by information about specific words that is stored in the lexicon. In the sentences like *The salesman glanced at a/the customer with suspicion/ripped jeans*, the prepositional phrases *with suspicion* or *with ripped jeans* could modify either the verb *glance* or the noun *customer*. This

is true only for action verbs, not for perception verbs like *glance at*. It has been noted that an actual preference for noun phrase modification only appeared when the noun had the indefinite article *a*.

(3) Comprehension of text

Sentences come in texts and discourses, and the entire text or discourse is relevant to the messages conveyed. Text is the net of propositions that make up the semantic interpretations of individual sentences. Readers abstract the main threads of a discourse and infer missing connections, constrained by limitations of short-term memory and guided by how arguments overlap across propositions and by linguistic cues signaled by the text.

Text or discourse makes contact with knowledge in readers' long-term memory and materials introduced earlier in a discourse. Retrieval of information from long-term memory can be a passive process that occurs automatically throughout comprehension. In *resonance model*, information in long-term memory is automatically activated by the presence of material that apparently bears a rough semantic relation to it. Semantic details, including factors such as negation that drastically change the truth of propositions, do not seem to affect the resonance process. It emphasized a more active and intelligent search for meaning as the basis by which a reader discovers the conceptual structure of a discourse. In reading a narrative text, a reader attempts to build a representation of the causal structure of the text, analyzing events in terms of goals, actions, and reactions. A resonance process serves as a first stage in processing a text, and, reading objectives and details of text structure determine whether a reader goes further and searches for a coherent structure for the text.

6.2.3 Language Production

Psycholinguists are also interested in the way in which a speaker formulates some intention, or expresses some idea in speech, in a conversational setting or otherwise. Various aspects of process of language production, such as conceptualization and linearization, grammatical and phonological encoding, self-monitoring, self-repair and gesturing during speech have been topics of interest.

The first focus is on the generation of simple utterances. Among the simplest utterances we produce are single words. The ability to produce words is, of course, a core ingredient of the ability to produce larger utterances. Therefore, single word access has been and still is a central research topic. Multiple word utterances require the speaker to run the word access procedure repeatedly. The issue is whether these access procedures overlap in time and

whether they mutually interact. In language comprehension, as we have discussed, comprehenders must map the spoken or written input onto entries in the mental lexicon and must generate various levels of syntactic, semantic, and conceptual structure. In language production, people are faced with the converse problem. They must map from a conceptual structure to words and their elements.

In this section, how people produce single words and then turn to the production of longer utterances will be discussed first. The discussion will concentrate on spoken language production, which has been the focus of most of the research on language production. Then, how the representations and processes involved in writing differ from those involved in speaking will be considered.

(1) Access to words

How speakers generate single words? Words are planned in several processing steps. Each step generates a specific type of representation, and information is transmitted between representations via the spreading of activation. The first processing step, called conceptualization, is deciding what notion to express. For instance, a speaker can say "*the baby*," "*Her Majesty's grandson*," or simply "*he*" to refer to a small person in a highchair. In making such a choice, the speaker considers a variety of things, including whether the person has been mentioned before and whether the listener knows his proper name.

The next step is to select a word that corresponds to the chosen concept. The speaker first selects a syntactic word unit which specifies the syntactic class of the word and additional syntactic information, such as whether a verb is intransitive (e.g., *sleep*) or transitive (e.g., *eat*) and, if transitive, what arguments it takes. Selecting a syntactic word unit is a competitive process. Several units may be activated at once because several concepts are more or less suitable to express the message, and because units that correspond to semantically similar concepts activate each other via links to shared superordinate concepts or conceptual features. A unit is selected as soon as its activation level exceeds the summed activation of all competitors. A checking mechanism ascertains that the selected unit indeed maps onto the intended concept.

The following processing step, morpho-phonological encoding, begins with the retrieval of the morphemes corresponding to the selected word. For the word *baby* there is only one morpheme to retrieve, but for *grandson* or *walked* two morphemes must be retrieved. People sometimes make speech errors such as "*imagine getting your model renosed*", where stems exchange while affixes remain

in place. Sometimes morphologically related items have different effects on the production of target words than do semantically or phonologically related items. Generally, morphemes are accessed in sequence, according to their order in the utterance.

(2) Generation of sentences

To describe scenes or events, speakers need to generate longer utterances. In generating sentences, the first step is again conceptual preparation—deciding what to say. Evidently, conceptual preparation is more complex for longer than for shorter utterances. To make a complicated theoretical argument or to describe a series of events, the speaker needs a global plan. Each part of the plan must be elaborated, perhaps via intermediate stages, until a representational level is reached that consists of lexical concepts. This representation forms the input to linguistic planning. Utterances comprising several sentences are rarely laid out entirely before linguistic planning begins. Theories of sentence generation assume that speakers prepare utterances incrementally. That is, they initiate linguistic planning as soon as they have selected the first few lexical concepts and prepare the rest later, either while they are speaking or between parts of the utterance. Speakers can probably choose conceptual planning units of various sizes, but the typical unit for many situations appears to correspond roughly to a clause.

When speakers plan sentences, they retrieve words. However, because sentences are not simply sets of words but have syntactic structure, speakers must apply syntactic knowledge to generate sentences. Two distinct sets of processes are involved in generating syntactic structure. The first set, often called functional planning processes, assigns grammatical functions, such as subject, verb, or direct object. These processes rely primarily on information from the message level and the syntactic properties of the retrieved lexicon-grammar units. The second set of processes, often called positional encoding, uses the retrieved lexicon-grammar units and the functions they have been assigned to generate syntactic structures that capture the dependencies among constituents and their order. The mapping from the functional to the positional level is usually quite straightforward: The subject usually precedes the verb, and the direct object and indirect object follow it. However, inversions can occur, as in “*I don’t mind bikes; cars I hate*”.

Evidence for the distinction between functional and positional processes comes from the finding that some speech errors (e.g., exchanges of words from different phrases, as in “*put the tables on the plate*”) can best be explained as errors of functional encoding. Other errors with different properties (e.g., shifts of

morphemes within phrases, as in “*the come homing of the queen*”) can best be explained as errors of positional encoding.

(3) Written language production

The steps in the production of written language are similar to those in the production of spoken language. A major difference is that, once a syntactic lexicon unit and its morphological representation have been accessed, it is the orthographic rather than the phonological form that must be retrieved and produced. Phonology plays an important role in this process, just as it does in the process of deriving meaning from print in reading. For instance, speakers of French were shown drawings of such objects as a seal (*phoque*) and a pipe (*pipe*) and were asked to write their names as quickly as they could. The time needed to initiate writing was longer for items such as *phoque*, for which the initial phoneme has an unusual spelling (/f/ is usually spelled as *f* in French), than for items such as *pipe*, for which the initial phoneme is spelled in the typical manner. Thus, even when a to-be-spelled word is not presented orally, its phonological form appears to be involved in the selection of the spelling.

Issues with respect to the derivation of orthography from phonology in spelling arise in considering the generation of writing. For instance, the spelling of an English segment becomes more predictable when neighboring segments are taken into account. The largest effects involve the vowel nucleus and the coda, suggesting that rimes have a special role in English spelling. Feedback between production and comprehension is another issue that arises in spelling as well as in reading: We may read a spelling back to check whether it is correct.

Writing differs from speaking in that writers often have more time available for conceptual preparation and planning. They may have more need to do so as well, as the intended reader of a written text is often distant in time and space from the writer. Monitoring and revising, too, typically play a greater role in writing than in speaking. For these reasons, much of the research on writing has concentrated on the preparation and revision processes rather than on the sentence generation and lexical access processes that have been the focus of spoken language production.

6.3 What Is Cognitive Linguistics?

COGNITIVE LINGUISTICS is a newly established approach to the study of language that emerged in the 1970s as a reaction against the dominant generative paradigm which pursues an autonomous view of language (Ruiz de Mendoza

1997). Cognitive linguistics is based on human experiences of the world and the way they perceive and conceptualize the world (Ungerer & Schmid 1996/2001).

In 1989, the first conference on cognitive linguistics was organized in Duisburg, Germany, by Rene Dirven. At that conference, the International Cognitive Linguistic Association (ICLA) was founded, which would hold biennial conferences. The journal *Cognitive Linguistics* was also conceived in the mid 1980s, and its first issue appeared in 1990 under the imprint of Mouton de Gruyter. In the 2000s, a review journal, the *Annual Review of Cognitive Linguistics* began its run.

6.3.1 Construal and Construal Operations

CONSTRUAL is the ability to conceive and portray the same situation in alternate ways through specificity, different mental scanning, directionality, vantage point, figure-ground segregation etc. (Langacker 2000: 25). Construal operations are conceptualizing processes used in language process by human beings. That is, construal operations are the underlying psychological processes and resources employed in the interpretation of linguistic expressions. They have been explored and described by Talmy (1977, 1978, 1988a, 1988b, 2000), Lakoff, et al. (Lakoff, and Johnson 1980; Lakoff 1987; Lakoff and Turner 1989), Langacker (1987), and Croft, et al. (Croft, and Wood 2000; Croft and Cruse 2004).

(1) Attention/Salience

The operations grouped under SALIENCE have to do with our direction of attention towards something that is salient to us. In perception, we can direct our attention towards parts of the perceived scenery. In cognition, it has to do with the activation of conceptual structures. That is, we activate the most relevant concepts more than concepts that are irrelevant to what we're "thinking about". In that sense, we direct the attention towards the relevant concepts. Attention/salience relates to language, among other things, because we use certain linguistic expressions to provoke certain patterns of activation. For example:

Ex. 6-3

- a. We drove along the road.
- b. She ran across the road.
- c. The building workers dug through the road.

The road is conceptualized as a line (one-dimensional), a surface (two-dimensional), and a volume (three-dimensional).

Ex. 6-4

- a. He cleaned the window.

- b. He opened the window.

Example 6 - 4a draws attention to the glass in the window, whereas the frame of the window is more salient in ex. 6 - 4b.

Ex. 6 - 5

- a. I've broken the window.
b. A stone has broken the window.

Example 6 - 5a foregrounds my role in the event, whereas 6 - 5b foregrounds the role of a stone.

(2) Judgment/Comparison

The construal operations of judgment/comparison have to do with judging something by comparing it to something else. This is a very fundamental cognitive capacity and the cognitive operations of judgment are also very fundamental to the human experience.

The figure-ground alignment seems to apply to space with the ground as the prepositional object and the preposition expressing the spatial relational configuration (Talmy 2000). It also applies to our perception of moving objects. Since the moving object is typically the most prominent one, because it is moving, it is typically the figure, while the remaining stimuli constitute the ground. In order to distinguish between static and dynamic figure/ground relations, Langacker (1987) uses the term TRAJECTOR for a moving figure and LANDMARK for the ground of a moving figure. For example:

Ex. 6 - 6

- a. There's a cat [figure] on the mat [ground].
b. Batman [figure] was standing on the roof [ground].
c. We [trajector] went across the field [landmark].
d. He [trajector]'s going to London [landmark].

(3) Perspective/Situatedness

Another construal operation in cognitive linguistics is regarded to be perspective, in which we view a scene in terms of our situatedness. Perspective generally depends on two things. Firstly, it depends on where we are situated in relation to the scene we're viewing. Secondly, it depends on how the scene is arranged in relation to our situatedness. For example:

Ex. 6 - 7

- a. My bike is in front of the car.
b. My bike is behind the car.

Of course, these construals presuppose that we are actually physically present looking at the car and the bike from different perspectives.

DEIXIS involves linguistic forms that point at something from the speech

situation. In cognitive terms, deixis is the use of elements of subject's situatedness to designate something in the scene. A very obvious example is the use of *this* and *that* in English.

Ex. 6 – 8

- a. Look at that [construes distance].
- b. Look at this [construes proximity].

There are many other types of deixis: 1) person deixis construes the relations between the participants in the speech situation; 2) social deixis construes social relationships between participants in the discourse; 3) textual/discursive deixis construes the relation to previous mention in discourse.

6.3.2 Categorization

CATEGORIZATION is the process of classifying our experiences into different categories based on commonalities and differences. Categorization is a major ingredient in the creation of human knowledge, and it allows us to relate present experiences to past ones. There are three levels in categories: the basic level, the superordinate level, and the subordinate level.

(1) Basic level

The categories at the BASIC LEVEL are those that are most culturally salient and are required to fulfill our cognitive needs the best. This is the level where we perceive the most differences between “objects” in the world. All categories of dogs are different, but they still share enough to be distinguished from cats, birds, snakes, primates, etc. So it is at this level that we can find the idealized configuration of feature of a category. Consequently, basic level categories are also the most economical ones in that it is at this level that you can find the most relevant information. The information on our interactions with objects in the real world are stored at this level, which means that it is at this level that we conjure up the general gestalt of the category. All these characteristics can be summed up under Croft and Cruse's four points (2004: 83):

- (i) The most inclusive level at which there are characteristic patterns of behavioral interaction;
- (ii) The most inclusive level for which a clear visual image can be formed;
- (iii) The most inclusive level at which part-whole information is represented;
- (iv) The level used for everyday reference.

(2) Superordinate level

SUPERORDINATE categories are the most general ones. The members of a superordinate category do not have enough features in common to conjure up a

common gestalt at this level. But if someone asks you to think of a VEHICLE you might think of a CAR or a BUS or if someone asks you to think of a PLANT you might think of a TREE or a FLOWER. This is parasitical categorization. The idea is that you actually borrow some features from a basic level category and apply them to the superordinate category. Of course, you pick a basic level category that is important to you somehow. To you the features that you've borrowed might seem representative of the entire superordinate category, but in fact they are very small proportion of its members. Croft and Cruse have pointed out four characteristics (2004: 84 – 85):

(i) Superordinate categories are less good categories than basic level categories, because although members are relatively distinct from members of neighboring categories, within-category resemblance is relatively low;

(ii) Superordinate categories have fewer defining features than basic level categories;

(iii) Immediate superordinates of basic level categories often have a single-attribute relation to a higher superordinate category;

(iv) Linguistically, names for superordinate categories are often mass nouns when basic level terms are count nouns.

(3) Subordinate level

They have clearly identifiable gestalts and lots of individual specific features. At this level we perceive the differences between the members of the basic level categories. Often the names for SUBORDINATE LEVEL categories are morphologically complex. They are typically composite forms. One such example is that of compound nouns. A composite form typically combines two or more words that signify basic level categories, like *rain coat*, *apple juice*, and *wheel chair*. But the meaning of the composite form cannot be said to be just a combination of units it is composed of, since the subordinate level category behind the composite form typically has many more features than can be ascribed to the combined units. If we want to account for all the features of the meaning of the composite form, we'll have to look at its semantic frames. All of this can be summed up in Croft and Cruse's three points (2004: 85 – 86):

(i) Subordinate categories are less good categories than basic categories, because although their members have high mutual resemblance, they have low distinctiveness from members of neighboring categories.

(ii) They are much less informative relative to their immediate superior category.

(iii) They are frequently polymorphemic, the most common pattern being modifier-head.

6.3.3 Image Schemas

Mark Johnson (1987) proposes IMAGE SCHEMAS. He defines an image schema as a recurring, dynamic pattern of our perceptual interactions and motor programs that gives coherence and structure to our experience (1987: xiv). Image schematic structures have two characteristics: they are pre-conceptual schematic structures emerging from our bodily experience and they are constantly operating in our perceptual interaction, bodily movement through space, and physical manipulation of objects. Image schemas exist at a level of abstraction, operate at a level of mental organization between propositional structures and concrete images, and "serve repeatedly as identifying patterns in an indefinitely large number of experiences, perceptions, and image formation for objects or events that are similarly structured in the relevant ways" (Johnson 1987: 28).

(1) A center-periphery schema

It involves a physical or metaphorical core and edge, and degrees of distance from the core. For example; the structure of an apple, an individual's perceptual sphere, an individual's social sphere, with family and friends at the core and others at the outside.

(2) A containment schema

It is an image schema that involves a physical or metaphorical boundary, enclosed area or volume, or excluded area or volume. A containment schema has additional optional properties, such as transitivity of enclosure, objects inside or outside the boundary, protection of an enclosed object, the restriction of forces inside the enclosure, and the relatively fixed position of an enclosed object.

(3) A cycle schema

It involves repetitious events and event series. Its structure includes the following: a starting point, a progression through successive events without backtracking, a return to the initial state. The schema often has superimposed on it a structure that builds toward a climax and then goes through a decline. Examples of cycle schemas are *days*, *weeks*, *years*, *sleeping* and *waking*, *breathing*, *circulation*, *emotional buildup* and *release*.

(4) A force schema

It involves physical or metaphorical causal interaction. It includes the following elements: a source and target of the force, a direction and intensity of the force, a path of motion of the source and target, a sequence of causation. Here are some kinds of force schemas: an attraction schema, a balance schema, a blockage schema, a compulsion schema, a counterforce schema, a diversion schema, an enablement schema, a restraint removal schema.

(5) A link schema

It consists of two or more entities, connected physically or metaphorically, and the bond between them. Here are some examples of link schemas: *a child holding her mother's hand*, *someone plugging a lamp into the wall*, *a causal "connection"*, *kinship "ties"*.

(6) A part-whole schema

It involves physical or metaphorical wholes along with their parts and a configuration of the parts. Examples are: *the body and its parts*, *the family and the caste structure of India*.

(7) A path schema

It involves physical or metaphorical movement from place to place, and consists of a starting point, a goal, and a series of intermediate points. This can be exemplified by *paths* and *trajectories*.

(8) A scale schema

It involves an increase or decrease of physical or metaphorical amount, and consists of any of the following: a closed-end or open-ended progression of amount, a position in the progression of amount, one or more norms of amount, a calibration of amount. Here are some examples of scale schemas: *physical amounts*, *properties in the number system*.

(9) A verticality schema

It involves "up" and "down" relations. Here are some examples of verticality schemas: *standing upright*, *climbing stairs*, *viewing a flagpole*, *watching water rise in a tub*. According to Johnson, some image schemas also represent spatial orientations and relations: UP-DOWN, FRONT-BACK, PART-WHOLE, CENTER-PERIPHERY, and so on.

6.3.4 Metaphor

METAPHOR involves the comparison of two concepts in that one is construed in terms of the other. It's often described in terms of a TARGET DOMAIN and a SOURCE DOMAIN. The target domain is the experience being described by the metaphor and the source domain is the means that we use in order to describe the experience. For example:

Ex. 6-9

We're wasting our time here.

This sentence is based on a metaphor "TIME IS MONEY" in which the target domain, TIME, is conceptualized in terms of the source domain of MONEY. Very often, abstract experiences are described in terms of more concrete ones. In cognitive linguistics, metaphors are represented by a simple

formula: "X is Y", in which X is the target domain and Y is the source domain.

Lakoff and Johnson (1980) classify conceptual metaphors into 3 categories: ontological metaphors, structural metaphors and orientational metaphors.

(1) Ontological metaphors

ONTOLOGICAL METAPHOR means that human experiences with physical objects provide the basis for ways of viewing events, activities, emotions, ideas, etc., as entities and substances. Ontological metaphors can serve various purposes. By ontological metaphors we give bounded surfaces to less clearly discrete entities (mountains, hedges, street corners) and categorize events, actions and states as substances. Take the experience of rising prices as an example, which can be metaphorically viewed as an entity via the noun *inflation*. This gives us a way to refer to experiences (Lakoff & Johnson, 1980):

INFLATION IS AN ENTITY

Ex. 6 – 10

- a. Inflation is lowering our standard of living.
- b. If there's much more inflation, we'll never survive.
- c. We need to combat inflation.

Ex. 6 – 11

- a. Inflation is backing us into a corner.
- b. Inflation is taking its toll at the checkout counter and the gas pump.
- c. Buying land is the best way of dealing with inflation.
- d. Inflation makes me sick.

In these cases, regarding inflation as an entity allows human beings to refer to it, quantify it, identify it, treat it as a case, act with respect to it, and even believe that we understand it. Ontological metaphors are necessary for dealing with human experiences.

(2) Structural metaphors

STRUCTURAL METAPHOR plays the most important role because it allows us to go beyond orientation and referring and gives us the possibility to structure one concept according to another. This means that structural metaphors are grounded in our experience. Structural metaphors imply how one concept is metaphorically structured in terms of another. For example, ARGUMENT IS WAR leads to an English expression like "He attacked every weak point in my argument."

ARGUMENT IS WAR

Ex. 6 – 12

- a. Your claims are *indefensible*.
- b. He *attacked every weak point* in my argument.

- c. His criticisms were *right on target*.
- d. I *demolished* his argument.
- e. I've never *won* an argument with him.
- f. You disagree? Okay, *shoot*!
- g. If you use the *strategy*, he'll *wipe you out*.
- h. He *shot down* all of my arguments.

It is obvious that we don't just talk about argument in terms of war. We can actually win or lose arguments. We see the person we are arguing with as an opponent. We attack his positions and we defend our own. We gain and lose ground. We plan and use strategies. If we find a position indefensible, we can abandon it and take a new line of attack. Many of the things we do in arguing are partially structured by the concept of war.

(3) Orientational metaphors

ORIENTATIONAL METAPHOR gives a concept a spatial orientation. They are characterized not so much by structuring one concept in terms of another, but by a co-occurrence in our experience. The orientational metaphors are grounded in an experiential basis, which link together the two parts of the metaphor. The link verb "is", part of the metaphor, should be seen as the link of two different co-occurring experiences. For example, MORE IS UP. This metaphor is grounded in the co-occurrence of two different kinds of experiences: adding more of a substance and perceiving the level of the substance rise.

Orientational metaphors are based on human physical and cultural experience. For example, in some cultures the future is in front of us, whereas in others it is in back of us. Now let us study some orientational metaphors and give a brief hint about how each metaphorical concept might have arisen from human physical and cultural experience (Lakoff & Johnson, 1980):

HAPPY IS UP; SAD IS DOWN

Ex. 6 - 13

- a. I'm feeling *up*.
- b. That *boosted* my spirits.
- c. My spirits *rose*.
- d. You're in *high* spirits.
- e. Thinking about her always gives me a *lift*.
- f. I'm feeling *down*.
- g. I'm *depressed*.
- h. He's really *low* these days.
- i. I *fell* into a depression.
- j. My spirits *sank*.

From these sentences above, it is obvious that drooping posture typically goes along with sadness and depression, erect posture with a positive state.

6.3.5 Metonymy

METONYMY, in the cognitive literature, is defined as a cognitive process in which the vehicle provides mental access to the target with in the same domain. Metonymy in the cognitive liferafure is modeled as Idealized Cognitive Models (ICMs) by Lakoff (1987), conceptual mappings by Radden & Kovecses (1999), domain highlighting by Croft (2002), combinations of mappings and highlighting by Ruiz de Mendoza (2000), scenarios by Panther & Thornburg (1999) and more generally as reference-point activation by Langacker (1999) and Barcelona (2000).

On the basis of the ontological realms, we may distinguish three categories: the world of "concept", the world of "form", and the world of "things" and "events". These realms roughly correspond to the three entities that comprise the well-known semiotic triangle as proposed by Ogden and Richards (1936): thought, symbol and referent. The interrelations between entities of the same or from different ontological realms lead to various ICMs and possibilities for metonymy. Thus, we have three ICMs in ontological realms: Sign ICMs, Reference ICMs and Concept ICMs.

Radden & Kovecses (1999: 30 – 43) propose two general conceptual configurations: whole ICM and its part(s); parts of an ICM.

(1) Whole ICM and its part(s)

(i) *Thing-and-Part ICM*. This ICM may lead to the two metonymic variants:

Ex. 6 – 14

- a. WHOLE THING FOR A PART OR THE THING: *America* for "United States"
- b. PART OF A THING FOR THE WHOLE THING: *England* for "Great Britain"

(ii) *Scale ICM*. Scales are a special class of things and the scalar units are parts of them. Typically, a scale as a whole is used for its upper end and the upper end of a scale is used to stand for the scale as a whole:

Ex. 6 – 15

- a. WHOLE SCALE FOR UPPER END OF THE SCALE: *Henry is speeding again* for "Henry is going too fast."
- b. UPPER END OF A SCALE FOR WHOLE SCALE: *How old are you?* for "what is your age?"

(iii) *Constitution ICM*. It involves matter, material or substances which are seen as constituting a thing.

Ex. 6 - 16

- a. OBJECT FOR MATERIAL CONSTITUTING THE OBJECT: *I smell skunk.*
- b. MATERIAL CONSTITUTING AN OBJECT FOR THE OBJECT: *wood for "forest"*

(iv) *Event ICM*. Events may be metaphorically viewed as things which may have parts.

Ex. 6 - 17

- a. WHOLE EVENT FOR SUBEVENT: *Bill smoked marijuana.*
- b. SUBEVENT FOR WHOLE EVENT: *Mary speaks Spanish.*

(v) *Category-and-Member ICM*. A category and its members stand in a kind of relation.

Ex. 6 - 18

- a. CATEGORY FOR A MEMBER OF THE CATEGORY: *the pill for "birth control pill"*
- b. MEMBER OF A CATEGORY FOR THE CATEGORY: *aspirin for "any pain-relieving tablet"*

(vi) *Category-and-Property ICM*. Properties may either be seen metaphorically as possessed objects (PROPERTIES ARE POSSESSIONS) or metonymically as parts of an object.

Ex. 6 - 19

- a. CATEGORY FOR DEFINING PROPERTY: *jerk for "stupidity"*
- b. DEFINING PROPERTY FOR CATEGORY: *blacks for "black people"*

(vii) *Reduction ICM*. A final type of a PART FOR WHOLE metonymy is found in the reduction of the form of a sign.

Ex. 6 - 20

PART OF A FORM FOR THE WHOLE FORM: *crude for "crude oil"*

(2) Parts of an ICM

(i) *Action ICM*. It involves a variety of participants which may be related to the predicate expressing the action or to each other.

Ex. 6 - 21

- a. AGENT FOR ACTION: *to author a new book; to butcher the cow*
- b. ACTION FOR AGENT: *writer, driver*

Ex. 6 - 22

- a. INSTRUMENT FOR ACTION: *to ski, to hammer*

b. ACTION FOR INSTRUMENT: pencil *sharpener*; screw *driver*

Ex. 6 – 23

a. OBJECT FOR ACTION: *to blanket* the bed; *to dust* the room

b. ACTION FOR OBJECT: the best *bites*; the *flight* is waiting to depart

Ex. 6 – 24

a. RESULT FOR ACTION: *to landscape* the garden

b. ACTION FOR RESULT: *the production*; *the product*

Ex. 6 – 25

MANNER FOR ACTION: *to tiptoe* into the room

Ex. 6 – 26

MEANS FOR ACTION: He *sneezed* the tissue off the table.

Ex. 6 – 27

TIME FOR ACTION: *to summer* in Paris

Ex. 6 – 28

DESTINATION FOR MOTION: *to porch* the newspaper

Ex. 6 – 29

INSTRUMENT FOR AGENT: *the pen* for “writer”

(ii) *Perception ICM*. Perception plays such an outstand role in our cognitive world that it merits an ICM of its own. Since perceptions may also be intentional, the Perception ICM may cross-classify with the Action ICM.

Ex. 6 – 30

a. THING PERCEIVED FOR PERCEPTION: *There goes my knee* for “There goes the pain in my knee”

b. PERCEPTION FOR THING PERCEIVED: *sight* for “thing seen”

(iii) *Causation ICM*. Cause and effect are so closely interdependent that one of them tends to imply the other. Moreover, they probably account for the fact that people often confuse causes and effects. In principle, the causation ICM may give rise to reversible metonymies:

Ex. 6 – 31

a. CAUSE FOR EFFECT: *healthy complexion* for “the good state of health bringing about the effect of healthy complexion”

b. EFFECT FOR CAUSE: *slow road* for “slow traffic resulting from the poor state of the road”

(iv) *Production ICM*. It involves actions in which one of the participants is a product created by the action. The production of objects seems to be a particularly salient type of causal action.

Ex. 6 - 32

PRODUCTION FOR PRODUCT: I've got a *Ford* for "car"

Ex. 6 - 33

- a. INSTRUMENT FOR PRODUCT: Did you hear *the whistle*? For "its sound"
- b. PRODUCT FOR INSTRUMENT: to turn up *the heat* for "the radiator"

Ex. 6 - 34

PLACE FOR PRODUCT MADE THERE: *china, mocha, camembert*

(v) *Control ICM*. It includes a controller and a person or object controlled. It gives rise to reversible metonymic relationships:

Ex. 6 - 35

- a. CONTROLLER FOR CONTROLLED: *Nixon* bombed Hanoi.
- b. CONTROLLED FOR CONTROLLER: *The Mercedes* has arrived.

(vi) *Possession ICM*. The possession ICM may lead to reversible metonymies:

Ex. 6 - 36

- a. POSSESSOR FOR POSSESSED: *That's me* for "my bus"; *I am parked there* for "My car"
- b. POSSESSED FOR POSSESSOR: *He married money* for "person with money"

(vii) *Containment ICM*. The image-schematic situation of containment is so basic and well-entrenched that it deserves to be treated as an ICM of its own among locational relations.

Ex. 6 - 37

- a. CONTAINER FOR CONTENTS: *The bottle is sour* for "milk"
- b. CONTENTS FOR CONTAINER: *The milk tipped over* for "the milk container tipped over"

(viii) *Location ICMs*. Places are often associated with people living there, well-known institutions located there, events which occur or occurred there and goods produced or shipped from there. Hence, we find the following metonymies:

Ex. 6 - 38

- a. PLACE FOR INHABITANTS: *The whole town showed up* for "the people"
- b. INHABITANTS FOR PLACE: *The French hosted the World Cup Soccer Games* for "France"

Ex. 6 – 39

- a. PLACE FOR INSTITUTION: *Cambridge won't publish the book for "Cambridge University Press"*
- b. INSTITUTION FOR PLACE: *I live close to the University.*

Ex. 6 – 40

- a. PLACE FOR EVENT: *Waterloo* for "battle fought at Waterloo"
- b. EVENT FOR PLACE: *Battle*, name of the village in East Sussex where the Battle of Hastings was fought.

(ix) *Sign and Reference ICMs*. They lead to metonymies cross-cutting ontological realms. In sign metonymy, a (word-)form stand for a conventionally associated concept; in reference metonymies, a sign, concept or (word-)form stands for the real thing.

Ex. 6 – 41

WORDS FOR THE CONCEPTS THEY EXPRESS: a self-contradictory utterance

(x) *Modification ICM*. It mainly applies to variant forms of a sign apart from reduction.

Ex. 6 – 42

SUBSTITUTE FORM FOR ORIGINAL FORM: Do you still love me?
—Yes, I do.

6.3.6 Blending Theory

Fauconnier & Turner (1994, 1995) propose and discuss BLENDING or INTEGRATION theory, a cognitive operation whereby elements of two or more "mental spaces" are integrated via projection into a new, blended space which has its unique structure. They present examples of blending, analyze the blending process, provide a taxonomy of blends, and argue for the ubiquity and importance of blending as a cognitive resource (Fauconnier, 1997: chapter 6).

Blending operates on two input mental spaces to produce a third space, the blend. The blend inherits partial structure from the input spaces and has emergent structure of its own. There are some conditions needed when two input spaces I_1 and I_2 are blended:

(1) Cross-Space Mapping: there is a partial mapping of counterparts between the input spaces I_1 and I_2 , as shown in Figure 6 – 1.

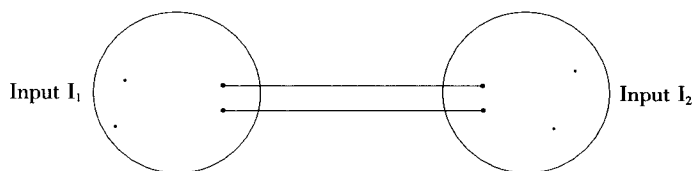


Figure 6-1

(2) Generic Space: It maps onto each of the inputs. It reflects some common, usually more abstract, structure and organization shared by the inputs. It defines the core cross-space mapping between them, as in Figure 6-2.

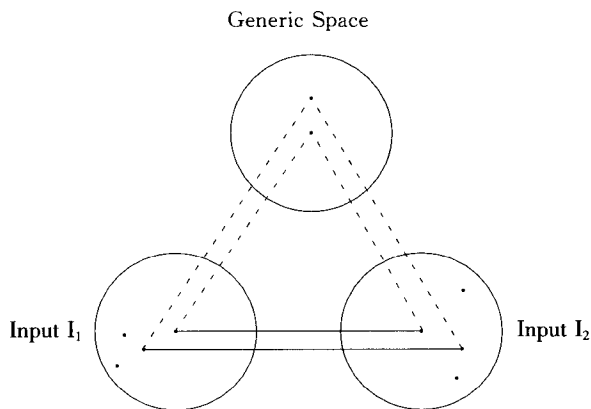


Figure 6-2

(3) Blend: the inputs I_1 and I_2 are partially projected onto a fourth space, the blend, as in Figure 6-3.

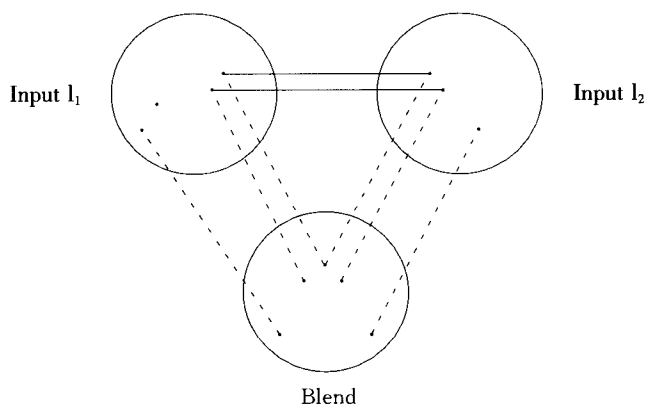


Figure 6-3

- (4) Emergent Structure: the blend has emergent structure not provided by the inputs. This happens in three interrelated ways:
- (a) Composition: Take together, the projections from the inputs make new relations available that did not exist in the separate inputs.
 - (b) Completion: Knowledge of background frames, cognitive and cultural models, allows the composite structure projected into the blend from the inputs to be viewed as part of a larger self-contained structure in the blend. The pattern in the blend triggered by the inherited structures is “completed” into the larger, emergent structure.
 - (c) Elaboration: The structure in the blend can then be elaborated. This is “running the blend.” It consists in cognitive work performed within the blend, according to its own emergent logic.

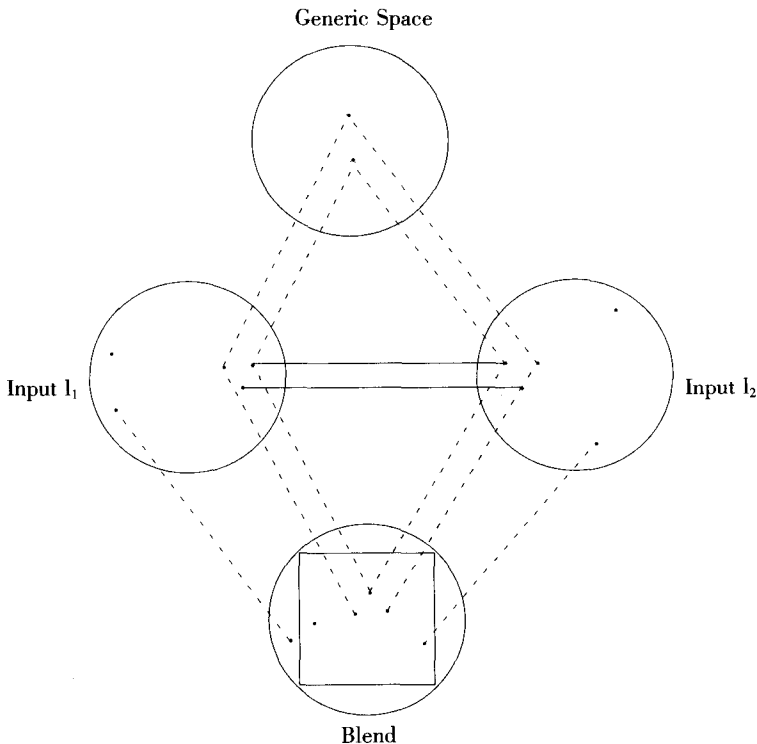


Figure 6-4

A full four-space blend looks in Figure 6 - 4. In the diagram, the square stands for the emergent structure in the blend. The diagram is meant to indicate

that when counterparts are projected into the blend, they may be fused into a single element or projected separately. An additional possibility is that one of the counterparts is projected but not the other.

The blending theory suggests a new way of thinking about what constitutes a novel inference. Because the mapping operation involves integrated frames rather than isolated predicates, the choice of one particular framing over another necessarily results in a different set of attendant inferences. Besides the acquisition of unknown facts, a novel inference might involve a new construal of a well-understood phenomenon, a change in prominence of a particular element, or simply the availability of connected frames.

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Language, Culture, and Society

It has long been recognized that language is an essential and important part of a given culture and that the impact of culture upon a given language is something intrinsic and indispensable. As we'll show below, though the endeavor in the pursuit of this inter-relationship has never been dominant in the development of linguistic science, "this very embedding of language in society and culture has been the focus of intense and sustained research efforts since the 1960s" (Apte, 1994: 2000). In order to provide the student an opportunity to know more about the situation, we introduce this chapter and focus our discussion on the relationship between LANGUAGE, CULTURE, and SOCIETY. To stress the applicability of linguistic science and reflect the interdisciplinary nature of this enterprise, an additional part of discussion is added, which is designed to discuss issues related to CROSS-CULTURAL COMMUNICATION. Clearly, this multidisciplinary attempt can be alternatively understood as an effort to provide a different perspective to the study of language science in terms of some new tendencies and developments in the field of SOCIOLINGUISTICS, which has been proven to be an additional momentum to the study of language use in a sociocultural setting over the past decades. Bearing this point in mind, we organize our discussion in three parts and pay special attention to the inter-relationships between 1) language and culture, 2) language and society, and 3) language and cross-cultural communication.

7.1 Language and Culture

Language is an indispensable carrier of culture. Culture finds a better representation through language use. A joint study of these two subjects will definitely broaden the horizon of human knowledge in general and enrich the research of these sciences in particular. This correlation highlights the pursuit of the relationship between the two and makes this practice something both

fascinating and challenging.

7.1.1 How Does Language Relate to Culture?

It has become axiomatic to state that there exists a close relationship between language and culture. More evidence can be gathered to substantiate this claim if we have a brief survey of what has happened in the field of linguistics over the past century. Admittedly, ever since the beginning of the eighteenth century, the linguistic inquiry of language has been either comparative and historical or structural and formalized in nature. Some change, however, was observed at the start of the 20th century: AN ANTHROPOLOGICAL ORIENTATION in the study of language was developed both in England and in North America. What characterized this new tradition was its study of language in a sociocultural context. While Bronislaw Malinowski and John P. Firth can be regarded as the pioneers of this movement in England, Franz Boas, Edward Sapir, and Benjamin Lee Whorf are naturally seen as the representatives of a parallel but independent tradition from North America. With their innovation, commitment, and perseverance, a lot of important and creative work has been done in the research of the relationship between language and culture. More importantly, a new paradigm was thus set up, which has led to a diversity of research of the issue in the following years.

As early as in the 1920s, a school of ANTHROPOLOGICAL STUDY OF LINGUISTICS came into being in England. For instance, when Malinowski, an anthropologist, did his field work on the Trobriand Islands off eastern New Guinea, he observed that in this primitive culture the meaning of a word greatly depended upon its occurrence in a given context, or rather, upon a real language situation in life. Take the word "wood" for example. In this culture, the word may be used either to refer to the solid substance of a tree as its English equivalent suggests, or more specifically, to designate a canoe, which serves as a useful means of transportation to these islanders and therefore plays an important role in the daily life of this SPEECH COMMUNITY. The second interpretation of this word has, however, turned out to be heavily situationally or culturally specified and may not be easily captured by an outsider from a different cultural background. Based on phenomena like this, Malinowski claimed that "In its primitive uses, language functions as a link in concerted human activity. . . . It is a mode of action and not an instrument of reflection" (1923: 312). Needless to say, the work by Malinowski paved the way for a cultural, rather, a contextual study of language use in Britain. Strongly influenced by this anthropological view of language and being fully aware of the importance of the context in the

study of language use, Firth, a leading figure in a linguistic tradition later known as the London School, tried to set up a model for illustrating the close relationships between language use and its co-occurent factors. In the end, he developed his own theory of CONTEXT OF SITUATION, which can be summarized as follows (Firth, 1950: 43 – 44 [Palmer, 1981: 53 – 54]):

A. The relevant features of the participants, persons, personalities:

(i) The verbal action of the participants.

(ii) The non-verbal action of the participants.

B. The relevant objects.

C. The effects of the verbal action.

In relation to the focus of our discussion here, two points can be made to show the strong culture-oriented implication of this theory. Like Sapir, though far less directly, Firth here seemed to suggest the creativity and diversity of linguistic idiosyncrasy in language use (Darnell, 1994: 3655). On the other hand, what Firth emphasized in this theory is quite similar to a more updating sociological axiom in language use, namely, “who speaks (or writes) what language (or what language variety) to whom and when and to what end” (Fishman, 1972: 46). The Firthian tradition in this respect was further developed by the founder of systemic-functional linguistics, M. A. K. Halliday, whose contributions to sociolinguistics could be better seen from his understanding of language from a socially semiotic or interactional perspective, his functional interpretation of grammar as a resource for meaning potential, and his linguistic model in the study of literature (Downes, 1998).

Meanwhile, we also notice that linguists from the North American side began to make some substantial contributions to the study of the relationship between language and culture around the early 1920s. In fact, when we talk about a cultural study of language in America, we’ll soon realize the fact that the American Indian culture formed an extremely fruitful source for early American anthropologists to look at this subject matter. From the 1920s to the 1940s, when engaged in a demanding but significant task—the reconstruction of American Native languages, anthropologists such as Boas, Sapir, and Whorf came to know the significance of culture in the study of language use. For instance, from their field work, a lot of language data had been documented, providing much first-hand evidence to show how the interpersonal relationship is related to linguistic forms chosen by these American Indians in their daily communication. If these things were not to be appropriately described and correctly understood, it would be very difficult to interpret some variations in the structure of these languages. This anthropological approach to the study of language and culture laid a firm

foundation in the history of linguistic development. The potential impact of this tradition can still be felt when we talk about the ETHNOGRAPHY OF COMMUNICATION, an authoritative research framework of our time in a linguistic study of social and cultural factors (Hymes, 1972). The essential elements suggested by this framework include 1) speech community, 2) situation, event and act, and 3) mnemonic SPEAKING components (Fasold, 1999 [1990]: 39 - 46). A brief explanation of these elements is necessary for you to better understand the mechanisms of the framework. A speech community refers to a group of people who "share not only the same rules of speaking, but at least one linguistic variety as well" (Hymes, 1972: 52). Situation, event and act are three units of interaction. Put together, these units form a nested hierarchy that can be used to study how members from a given community speak to each other. "Speech acts are part of speech events which are, in turn, part of speech situations" (Fasold, 1999 [1990]: 42). SPEAKING is a mnemonic way of summarizing certain components of speech which make possible the description and analysis of communicative behavior; S = Situation (场景), P = Participants (参与者), E = Ends (目的), A = Act sequence (相关形式与内容), K = Key (语气), I = Instrumentalities (语式), N = Norms (准则), and G = Genres (体裁) (Yang, 2000: 23 - 24).

Having talked so much on the heritage concerning the study of language and culture, now let us move on and introduce a very influential but also extremely controversial theory that has ever been made in the study of the relationships between language and culture. And this attempt will inevitably lead us to an important figure in American anthropological linguistics—Benjamin Lee Whorf and his famous hypothesis concerning language, thought, and culture. From the early 1920s, as an amateur linguist, Whorf began to show an interest in language, anthropology, and archaeology. Later on, he attended some linguistic courses given by Sapir at Yale University and "found particular resonance between his own ideas and those of Sapir" (Stam, 1994: 4983). This experience and his study of Hopi, an American Indian language, helped him develop a unique understanding of linguistic relativity, which is widely known as the SAPIR-WHORF HYPOTHESES. What this hypothesis suggests is like this: our language helps mould our way of thinking and, consequently, different languages may probably express speakers' unique ways of understanding the world. Following this argument, two important points can be captured in this theory. On the one hand, language may determine our thinking patterns; on the other, similarity between languages is relative. For two different speech communities, the greater their structural differentiation is, the more diverse

their conceptualization of the world will be. For this reason, this hypothesis has alternatively been referred to as LINGUISTIC DETERMINISM and LINGUISTIC RELATIVITY—a view which “was first expounded by the German ethnologist, Wilhelm von Humboldt” (Crystal, 1985: 262).

Before we end this historical survey and move on to a more detailed illustration of the Sapir-Whorf hypothesis, we should not miss some brilliant points made by Eugene Nida, a well-known linguist and translation theorist, concerning the relationships between language and culture. What makes his discussion of language and culture more meaningful to the issue we are talking about here is the fact that for many years he has been involved in the Bible translation work across different languages. His rich experience in this respect leads him to claim that, as translators, if we want to do a good job in CROSS-CULTURAL COMMUNICATION, there are five types of sub-culture we should be fully aware of: 1) ecological culture; 2) linguistic culture; 3) religious culture; 4) material culture, and 5) social culture (Nida, 1964). The diversity and difficulty of this practice is thus identified and highlighted.



7.1.2 More about the Sapir-Whorf Hypothesis

As has been shown above, what this hypothesis primarily suggests is that our language will mould our view of the world. One thing we would like to point out here is that nowadays few people would possibly tend to accept the original form of this theory completely. Consequently, two versions of the Sapir-Whorf hypothesis have been developed, a strong version and a weak version. The strong version of the theory refers to the claim the original hypothesis makes, emphasizing the decisive role of language as the shaper of our thinking patterns. The weak version of this hypothesis, however, is a modified type of its original theory, suggesting that there is a correlation between language, culture, and thought, but the cross-cultural differences thus produced in our ways of thinking are relative, rather than categorical.

If we go over the literature concerning the hypothesis, we'll soon discover that it has aroused a lively controversy. While some researchers claim to have

found reliable evidence to justify its validity, others argue that enough counter-evidence has been obtained to jeopardize its feasibility. Facing a situation like this, we must be careful and do not rush to any hasty conclusion before we really obtain some reliable evidence to either support or reject the hypothesis. Here are two examples taken to show the complexity and controversy of the theory. One is quoted from Hopi, an American Native language spoken in Arizona; the other is taken from Dugum Dani, a Papuan language spoken in the central highlands of Irian Jaya. As far as the former is concerned, it serves as a good example to show how languages may differ from each other, possibly providing some positive evidence to support the hypothesis. On the other hand, by looking at the basic color word system in Dani language from an evolutionary perspective, we'll have an opportunity to get to know that linguistic relativity may equally meet some cross-cultural counter examples, a challenge to the theory hence formed. In Hopi, there is something very special about its grammar (Fasold, 1999 [1990]: 51 - 52). One of these features that separate it from other languages is that it does not use the same means to express time, and hence is metaphorically dubbed a "timeless language". Sampson (1980: 86) further explains,

... the (Hopi) language does not recognize time as a linear dimension, which can be measured and divided into units like spatial dimensions... Furthermore, Hopi verbs do not have tenses comparable to those of European languages. And since there is no concept of time, there can be no concept of speed, which is the ratio of distance to time; Hopi has no word for "fast", and their nearest equivalent for "He runs fast" would translate more literally as something like He very runs.

With an understanding of Hopi language like this, here is a big question for us to consider. If we have from the Hopi culture a physicist, as innovative as Albert Einstein is, could we expect this physicist to tell us the same thing as Einstein did in discussing the relativity theory? Admittedly, we may say that if this happened, this Hopi physicist would definitely find his/her way to express the principles suggested by the theory, but a more crucial question involved here is how his linguistic representation could be, compared to those linguistic patterns of which we are either native speakers or fully aware. Considerations like this suggest that when dealing with a cross-cultural question like this, we have to take caution and do not always evaluate a language system against the criteria in our mother tongue. In fact, one of the criticisms to the Sapir-Whorf hypothesis is that the theory is based on establishing European languages as a model against which all comparisons are made. The undertone behind this

criticism is that when we examine linguistic issues from a universal perspective, what we should do is to look at linguistic properties by following a criterion of similarity and difference, but not by adopting a criterion in an already established model language. Furthermore, due to the convenience of observation and comparison, it is suggested that when we search for LINGUISTIC UNIVERSALITY, we'd better begin with the similarities possessed by most languages, instead of their assumed differences (Greenberg et al., 1978).

Now let us move on and introduce our second example from the Dani language. In the later 1960s, two American scholars, Brent Berlin and Paul Kay, conducted a large cross-linguistic investigation of basic color vocabulary, which involved 98 languages in the world. The most striking finding in this research is that color word systems in different languages are not like what has been assumed by the Sapir and Whorf hypothesis, being culturally determined and hence absolutely different from one another. Contrary to this assumption, Berlin and Kay showed that different languages might well undergo a universal evolutionary process of development which, in turn, made the basic color system in one language different from that in another only in terms of the stages of their evolution. This evolutionary process can be specified as follows.

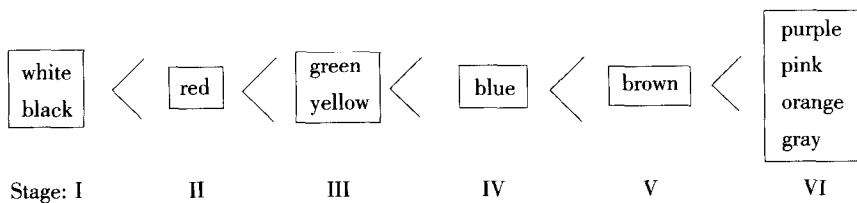


Figure 7-1 Evolutionary Stages of Basic Color Words

(Berlin & Kay, 1991 [1969]: 4)

What Figure 7-1 above suggests is this: if a language has two basic color terms, it is identified as staying in the first stage of evolution, possessing two basic color words "white" and "black"; if a language has three basic color words, it is assumed to be in the second stage of evolution, possessing three basic color words "white", "black", and "red". According to this evolutionary theory, English has all the eleven basic color words so it reaches the last stage of evolution. The good thing about this theory is that it correctly captures a kind of generalization in color words from a cross-cultural perspective. Because it is found that for the whole of 98 languages examined, there are only about 30 combinations of basic color words, varying from two to eleven in number. If there is not a linguistic universality in the basic color word system of languages, as this theory suggests,

a free combination of these eleven basic color words will produce over two thousand random combinations.

This evolutionary theory finds a good explanation in our second example from Dani, a language which has become well known for its very restricted system of basic color words. For instance, there are only two basic color words in this language: *modla* for light, bright, hence, white, and *mili* for dark, dull, hence, black (Berlin & Kay, 1991: 46). In relation to this specific language, an interesting question can be raised: What will a native Dani speaker do if he/she wants to designate colors other than black and white? Or, alternatively, do white and black always mean white and black cross-linguistically? A further investigation of the basic color word system in Dani revealed that the native speakers of this culture use this White versus Black contrast to convey more messages about their color perception. And it turns out that they use *modla* as a general color term to include all warm colors such as red and yellow and use *mili* as another umbrella color word to cover all the cold colors such as blue and green. Therefore, the contrast between *modla* and *mili* in fact is a contrast between “whitewarmness” versus “blackcoldness”^①, instead of a simple achromatic contrast like white and black. Furthermore, these results indicate that the color word system in Dani is still in its first stage of evolution and by means of using this whitewarmness and blackcoldness contrast and other types of color words, say, color words derived from object names, animals, plants, and so on, the speakers from this culture can successfully express any colors labeled by distinct color words in another culture. The force of linguistic relativity is hence greatly reduced if we also take into our consideration the issue of language use.

Recent developments in linguistics predict that linguistic studies in the new century will become more fruitful if an evolutionary, cognitive, and interdisciplinary perspective is taken in its theoretic pursuit (Hauser, Chomsky & Fitch, 2002). Meanwhile, additional evidence has been collected to convincingly show the momentum and feasibility of the Sapir-Whorf hypothesis in dealing with linguistic differences from exotic cultures. These new changes not only bring more vitality to linguistic science but also call for more eclecticism in its theorizing. Following this line of argument, it seems still premature to completely reject the Sapir-Whorf hypothesis.

① 白暖色系列和黑冷色系列的对比。

7.1.3 Case Studies

A constellation of examples can be collected from different levels of language analysis to illustrate the interplay of language and culture and this selection may range from textual structure to phonological variation. For instance, Kaplan(1966)claims that the structural organization of a text tends to be culturally specific. Some interesting experimental studies have also been conducted to test the sensitivity of the speakers to conditional clauses in a cross-linguistic context, though no consensus results have been observed yet (Bloom 1981). Meanwhile, rich data have been gathered to indicate that phonological differences or dialectal accents reveal more than geographic origins of speakers (Labov, 1966; Levey & Harris, 2002). Take English for instance. RP (Received Pronunciation or Standard British) speakers and GA (General American or Standard American) speakers produce rather different social connotations than speakers of other dialects on the part of hearers. If you are a RP speaker, you may be assumed to be an educated person. If you speak GA, you may be regarded both educated and extrovert. If you speak English with a foreign or regional accent, you will give others varying impressions, ranging from elegant to vulgar, from educated to illiterate.

A cross-cultural study of the meaning of some idioms or metaphorical uses in a given social context, however, will definitely provide an optimal opportunity to examine the issue. This choice of observation may partially explain why Nida, when summarizing some intrinsic features of vocabulary in relation to semantic, translating and cultural studies, states that words are sometimes “idiomatically-governed” and “culturally-specific” (1998: 32 – 45). Additionally, this observation also implies that there comes an important new force (i. e., the study of metaphor) in the pursuit of the relationships between language and culture (Lakoff & Johnson, 1980). What is presented below forms only a small part of the collections obtained through our personal exposure to the American culture (Yang, 1993), but it suffices to serve the purpose of our discussion here.

1. When you *get your hands dirty*, it does not necessarily mean in American culture that you’ve done some manual work and need to wash your hand.

Interaction Milieu: Professor Tulai, an American linguist, and Professor Yang, a visiting scholar from China, were talking about the relationships between teaching and doing research in the office.

Prof. Tulai: To do research means to *get your hands dirty*.

Prof. Yang: So you think teaching is worthier than doing research? Does the phrase “to get your hands dirty” have some pejorative

connotations?

Prof. Tulai: Oh, no! I didn't mean that. When I was saying that, I simply meant "you are practicing something", or "you are engaged in doing something."

2. When you *have enough dumbbells*, it does not necessarily mean that you keep pairs of this instrument for regular physical practices.

Interaction Milieu: Mr. Goodell, Mr. Yang's American landlord, and Mr. Yang were cleaning up the apartment. Mr. Yang pointed to the dumbbells on the floors and asked Mr. Goodell if he had any use of them for the time being.

Mr. Goodell: I guess I'd better put them in the garage. *I've had enough dumbbells in my office.*

Mr. Yang: Really? Can you do dumbbell practice in your office?

Mr. Goodell: Definitely not! I was joking. What I really meant is that there have been a lot of stupid guys in my office.

7.1.4 To Which Extent Do We Need Culture in Our Linguistic Study?

Our Hopi, Dani, and case examples above provide a good answer to this question. In what follows, we are going to take up a more structure-related example from English to indicate that a study of linguistic issues in a cultural setting can greatly promote our understanding of MOTIVATION and DIRECTIONALITY in language change. Moreover, by introducing a study like this, we will have an opportunity to show how to "do linguistics" in a cultural context.

Ever since the early 1970s, along with the disclosure of the notorious political scandal dubbed the Watergate event, a bunch of derived words has been rushing into the English language. Words like "Billygate," "Debategate," "Cattlegate," and "Ricegate" are some of these compounding forms. In this situation, it is felt that a sociolinguistic study of the combining form *-gate* and its derivations is necessary for us to examine the semantic, structural, and functional development concerning these nonce-words and know more about the correlation of these related factors in the study of word-formation (Yang, 1997). After a careful study of this phenomenon, we found that 1) this suffix enjoys a rich productivity in American English; 2) words derived from this

source inevitably take on a culturally pejorative implication to refer to “the disclosures of misconduct in high places” (Barnhart & Barnhart, 1981: 2364), hence, a synonym to scandals of different types, political or economical, and 3) a variety of derivational processes (i. e., antonomasia, conversion, affixation) can be explained in the study of the productivity of this compounding form. Based on these findings, we can draw some tentative conclusions:

1. “Watergate”, as a word taking on a pejorative implicature to refer to any political scandal at the high rank, will stay in English for quite a long time;
2. Its structural status in the language becomes rather stable through the rich derivational processes it has undergone in word-formation;
3. The semantic implicature it has will stay with the word for quite a long time.

In reality, this combining form has become so generalized in its form and meaning that some *-gate* words have even gone out of the American society and been used to refer to political scandals in other cultures as well. Examples of this type include: British *Watergate*, French *Watergate*, Muldergate (South Africa), Koreagate (South Korea), and so on (Yang, 2004b: 34 – 41).

7.1.5 Culture in Language Teaching Classroom

To know another culture is a rather difficult job. To act or behave appropriately in a target culture is a more demanding task. It is even claimed that a satisfactory fulfillment of this task will take about 20 years of time (Nida & JFL correspondent, 1998). Keeping this in mind and also realizing the facilitating role of cultural knowledge in language learning, we will briefly discuss the relationships between culture and language teaching here. The interested reader can find more examples in Gao (2000).

Principally, there are at least three objectives for us to teach culture in our language class:

1. To get the students familiar with cultural differences;
2. To help the students transcend their own culture and see things as the members of the target culture will;
3. To emphasize the inseparability of understanding language and understanding culture through various classroom practices.

All this leads to a belief that a good understanding of structural things in some cases has much to do with a conscious understanding of the cultural background of the target language for language learners. In other words, successful mastery of a given language has much to do with an understanding of that culture. This is because, as we have shown so far, language and culture

correlate with each other at different levels of linguistic structure.

7.2 Language and Society

Metaphorically, language is regarded as a mirror of society, through which we can understand social activities of a certain society better. Functionally, society provides language with a suitable context of use, in which we can enjoy aspects of language vividly and truthfully. With the occurrence of sociolinguistics, the relationships between the two has been emphasized; with the establishment of this new linguistic branch, the feasibility of this emphasis has been acknowledged (Chomsky, 1977 & 1995) and the orientation of this practice has become dynamic, prevailing, and fruitful (Yang, 2004a & 2004b). Against this trend of academic background, doing sociolinguistics will open a new window for us to know more about the intriguing mechanisms of language, society, and speakers.

7.2.1 How Does Language Relate to Society?

The relationships between language and society have long been recognized and examined. Evidence for this claim, discrete as it might be, can be conveniently gathered from the works of those great philosophers and grammarians either in the Graeco-Roman tradition or in the Indian history (Harris & Taylor, 1997 [1989]; Apte, 1994). During the whole 20th century, a great deal of efforts has been taken to treat the inquiry of linguistics as a MONISTIC or AUTONOMOUS PURSUIT of an independent science. Strongly influenced by this dominant view of linguistic science, a separation of the structural study of language from its social context of usage was claimed, justified, and reinforced. The resurrection of a DUALISTIC VIEW of linguistic inquiry, therefore, came into being in the 1960s, along with the development of sociolinguistics as an opposition to the dominant theory of Chomskyan linguistics.

7.2.2 A Situationally and Socially Variationist Perspective

As far as the situational variation in language use is concerned, Geertz (1960) provides a good example to illustrate the diversity and richness of some stylistic variants available for a Javanese speaker to choose when engaged in different types of communicative events (cf. Hymes, 1972; Fasold, 1999 [1990]: 39 - 46). For instance, even a simple interrogative sentence like "Are you going to

eat rice and cassava now?" will, as the following example shows, situationally admit several Javanese translations, starting from a rather lower level of style and moving to a comparatively higher level of style:

Are	<i>apa / napa / menapa</i>
you	<i>kowé / sampéjan / pandjenengan</i>
going	<i>arep / adjeng / dadé</i>
to eat	<i>mangan / neda / daharé</i>
rice	<i>sega / sekul</i>
and	<i>lan / kalijan</i> cassava
cassava	<i>laspé</i>
now	<i>saiki / saniki / samenika</i>

The copiously potential selection of linguistic forms in this Javanese community indicates that an appropriate language use in any social interaction not only has something to do with structural rules, but also involves some socially institutionalized norms in usage. In this sense, the choice of one form over another is both stylistically and socially governed. This conceptualization of linguistic variation, in relation to what will be discussed below, is likely to provide an innovative and more comprehensive understanding of the issue in general.

There has been a maxim in sociolinguistics which claims that "You are what you say" (Lakoff, 1991). Following this claim, we may expand the scope of our observation by introducing some social factors that are believed to influence our language behavior in a social context. Among these factors, some major ones include a) class; b) gender; c) age; d) ethnic identity; e) education background; f) occupation; and g) religious belief. In our discussion below, we are going to focus on the first two factors and show their impact upon one's language use.

In the middle of 1960s, William Labov, a famous sociolinguist, conducted a rather meticulous survey at several departments in the City of New York. The objective for having this sociolinguistic investigation was to examine the relationships between speakers' social status and their phonological VARIATIONS. The results of this investigation were reported in *The Social Stratification of English in New York City* (1966), which has now become a classical work in sociolinguistics. And it turns out that class and style are two major factors influencing the speakers' choice of one phonological variant over another. Based on these findings, Labov explicitly delineated the patterns of stratification by class and style and, more importantly, successfully introduced class as an indispensable sociolinguistic variable. Ever since its publication in the

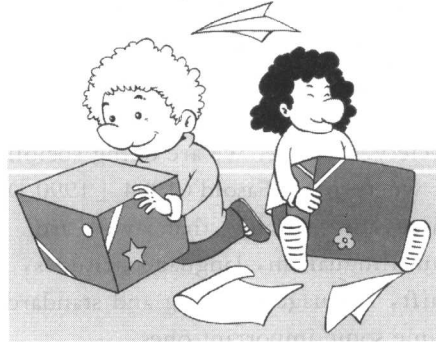
middle of the 1960s, this research paradigm has become the mainstream in sociolinguistics and alternatively termed as “the quantitative paradigm, sociolinguistics proper, variationist studies, urban dialectology and secular linguistics” (Mesthric, 1994: 4900; Bolton, 1992: 14; Milroy, 1994: 4859; Fasold, 1999 [1990]).

Over the past decades, in addition to the study of linguistic variation produced by class, the investigation of gender effects upon one's linguistic behavior has also been proven to be a rich resource for examining the correlation of language and society, though the awareness of this issue seems to be an older story which can be traced back at least to over two millennia ago (Yang, 2004a: 113 – 200). For instance, many precious examples reflecting gender differences in speech have been documented in some Ancient Greek dramas (Gregersen, 1979). Nonetheless, it is generally believed that the real sociolinguistic inquiry of this issue began with Robin Lakoff's (1973) retrospective study of gender differences in American English in the early 1970s (cf. Jespersen, 1922). Inspired by this very seminal article, the following years have seen a lot of publications either to support or to challenge the hypotheses Lakoff put forward concerning the linguistic behavior of females in the American society. What these hypotheses suggest is that there exists a WOMEN REGISTER in the language that takes on the following features:

1. Women use more “fancy” color terms such as “mauve” and “beige”.
2. Women use less powerful curse words.
3. Women use more intensifiers such as “terrible” and “awful”.
4. Women use more tag questions.
5. Women use more statement questions like “Dinner will be ready at seven o'clock?” (with a rising intonation at the end)
6. Women's linguistic behavior is more indirect and, hence, more polite than men's.

More importantly, it is argued that these differences in language use are brought about by nothing less than women's place in society. More cogently, the linguistic differences between men and women are culturally and socially governed. Some sociologists and linguists even claim that the so called women register is not only used by women but also by powerless members in society. The cartoon below explains the situation further. As the citation in the cartoon picture shows, a new distinction has necessarily been made in English: “Sex” is a word used to refer to one's biological property, while “gender” is a word employed to show one's social property. The underlying point for this argument and disparity is rather meaningful. Suppose that we are not satisfied with some

practices in language use, say, LINGUISTIC SEXISM, and want to reform the language. Then, the first thing we need do is to try to change the society. Because, as Lakoff correctly suggests, it is not language itself but women's place in society that makes people linguistically behave in that way. Hence, the relationships between language and society can be further illustrated by studying questions like this: Is a certain linguistic form more likely to be used by females than by their male peers? If so, why should it be so? The natural connection of this type also explains why the study of gender differences has become an ever-lasting focus in sociolinguistics ever since the 1970s.



SEX IS WHAT YOU'RE BORN WITH;
GENDER IS WHAT YOU'RE GIVEN.

7.2.3 What Should We Know More about Sociolinguistics?

Sociolinguistics, as an interdisciplinary study of language use, attempts to show the relationships between language and society. More specifically, in this discipline we have two important things to think about: structural things and their uses in a sociocultural context. Similarly, when we are conducting a sociolinguistic study of language use, we have two big issues to deal with. First, we want to show how these two factors are related to each other, and second, we attempt to know why it should be so. Put another way, we want to look at structural things by paying attention to language use in a social context; on the other hand, we try to understand sociological things of society by examining linguistic phenomena of a speaking community.

These dual objectives make this new type of linguistic study as an interdisciplinary, or multidisciplinary enterprise in nature (Bolton & Kwok, 1992). The pluralism and diversity of the field, on the other hand, make it difficult to delineate the scope of this enterprise. Over-lapping with other types of scientific research is another striking property we can observe in a sociolinguistic study. Keeping this fact in mind, if we are prepared to examine the structure of the whole sociolinguistic edifice, we can either classify sociolinguistic studies by means of a hierarchical division, or alternatively, by means of an orientational categorization. Categorically, sociolinguistic studies can further be specified as two related but not identical perspectives of observation, namely, a SOCIOLINGUISTIC STUDY OF SOCIETY and a

SOCIOLINGUISTIC STUDY OF LANGUAGE. For convenience of discussion, we choose the latter approach to continue our survey of the relationships between language and society. Before beginning this survey, we want to say more about these distinctive approaches.

If we want to know more about a given society or community by examining the linguistic behavior of its members, we are doing a sociolinguistic study of society. That is, we are doing sociolinguistics at a macro level of investigation. If we turn to Fasold (1984 [1990]) again, we may say that at this level of discussion things that we are interested in include bilingualism or multilingualism, language attitudes, language choice, language maintenance and shift, language planning and standardization, vernacular language education, to name some important ones.

On the other hand, if we want to know more about some linguistic variations in language use by turning to potential sociocultural factors for a description and explanation, we are doing a sociolinguistic study of language. Consequently, we are more interested in examining micro linguistic phenomena such as structural variants, address forms, gender differences, discourse analysis, Pidgin and Creole languages, and other more language related issues. The interested reader can find more detailed discussions concerning some of these heated sociolinguistic issues in our relevant discussion (Yang, 1988, 1990, 1991, 1996, 2000, 2002a, 2002b, 2004a & 2004b).

7.2.4 What Implications Can We Get from Sociolinguistics?

The past decades have witnessed a rapid development in sociolinguistics and the findings in this field have greatly enriched our understanding of the relationships between language and society. Along with the gradual maturity and acceptance of this school of linguistics, there has been an ever growing possibility for us to have a new daughter discipline called “applied sociolinguistics” (Trudgill, 1984). Some more successful practices of this attempt have been found in language classrooms, law courts, and clinical settings, respectively. We will present each of them briefly in the following discussion.

First, we'll have a look at sociolinguistics in language classrooms. But before we take up this issue, we'd better raise this question: What is wrong with the traditional perspective in language teaching? By asking a question like this, we are in fact making a choice between training our students as grammarians and training them as active language users. This contrast reflects two different views of philosophy in language teaching. For the traditional school, “language learning is treated as a process of acquiring knowledge, like studying history or

mathematics. The end result is that learners will know something about the language in the same way a linguist does, but will know little about the language used by others" (Berns, 1990: 342). We witnessed, however, a change in language teaching in the middle of the 1970s when Hyme's theory of COMMUNICATIVE COMPETENCE was introduced into the field as an antagonism to the traditional philosophy in language teaching. Consequently, as the name of this theory suggests, language teachers have begun to pay more attention to the question of how to train their students as active and successful language users in a real language context. As far as language teaching is concerned, sociolinguistics is believed to have made some important contributions which can further be summarized as follows (Berns, 1990: 339):

1. Sociolinguistics has contributed to a change of emphasis in the content of language teaching;
2. It has also contributed to innovations in materials and activities for the classroom;
3. It has contributed to a fresh look at the nature of language development and use;
4. It has contributed to a more fruitful research in this field.

Second, let us have a look at sociolinguistics in law courts. The inquiry of the relationships between language and law has opened another avenue for the application of sociolinguistic findings to some more practical issues in society. Some fruitful practices of this attempt have been observed in this respect. For instance, the important role of linguists in the analysis of language data gathered as evidence in law courts has been recognized by more and more people. Meanwhile, the joint work by sociolinguists and legislators in the preparation of some legal documents is proven to be helpful to increase the readability of this text and therefore appreciated (Fasold, 1999 [1990]). On the other hand, investigations of language use in a law court background also have revealed some interesting results which, in turn, greatly enrich our understanding of the relationships between the concept of power and language in use and explain why people speak differently in this unique social setting. For instance, some ask more questions, while others answer more questions. Some adopt a more powerful style, while others speak a more powerless language. The choice of one discourse pattern over another is, in fact, institutionally decided and socially maintained (O'Barr & Atkins, 1980).

Lastly, we turn to sociolinguistics in clinic settings. The analysis of dialogues between doctors and patients in a hospital context has also attracted the interest of some researchers in sociolinguistics. Similar to our last case in the law

court, the study of this type is also employed to illustrate things such as how the concept of power is encoded and decoded through language use in a hierarchical society and what pragmatic patterns and forces in reference and implication are involved in a speech event. For this reason, a lot of efforts have been taken in a sociolinguistic analysis of discourse patterns in a clinic setting. Because it is believed that in a highly hierarchically ordered communicative situation like this, through the study of language use by doctor and patient, more implications can be obtained in terms of the impact of some sociological factors upon the linguistic behavior of the members of a speech community.

7.3 Cross-cultural Communication

When globalization becomes a fact, the importance of cross-cultural communication is further highlighted. On the other hand, we have observed that more and more miscommunication occurs in international society. Carl Rogers (1961), a great psychologist, states that real communication takes place when we listen with understanding. By analogy, we may equally say that communication collapses when we listen with misunderstanding. More specifically, we may even state that cultural stereotypes and conflicts come in when we communicate with no real understanding. As we all know, language plays a decisive role when we communicate with others but the diversity in language and culture makes cross-cultural communication a highly risky mission. To complete this almost impossible mission, in the ensuing discussion, we will first introduce some basic elements concerning COMMUNICATION. Then, a group of case studies collected from diverse cultural settings will be presented. It is hoped that a fast reading of these basic elements and exotic stories will enrich your knowledge in cross-cultural communication, enhance your consciousness of globalization, and promote your performance as an active, appropriate, and competent language user.

7.3.1 What Should We Know All about Cross-cultural Communication?

Intra-cultural communication is not an easy job if some basic rules are not followed. Cross-cultural communication may become a nightmare if appropriate communicative measures are not taken. Realizing these difficulties on our way to globalization, we need to know some basic principles in communication so that a healthier discourse pattern can be adopted. To provide a feasible framework, we

would like to turn to Rogers (1961) and set up a tripartite model for successful communication: 1) try to look at things from other persons' point of view, 2) try to sense their feeling to a given issue, and 3) try to understand their way of knowing the world. More importantly, a closer relationship is thus set up between a psychological perspective of communication and a philosophical understanding of intentionality in pragmatics. The idea stressed by the latter point of view is that "communication proper is characterized by intentional communication, or what Grice calls 'non-natural meaning'" (Berge, 1994: 614). Following this line of reasoning and observing the uncertainty in cross-cultural communication, some suggestive principles are provided below as basic guidelines to this difficult work.

1. Successful communication occurs when the hearer can see, feel, and understand issues from the speaker's point of view.
2. Successful communication occurs when the speaker and hearer know each other's intention.
3. Successful communication occurs when the two parties adopt a dynamic dialogue pattern.

7.3.2 Case Studies

Real communication plays an important role in modern society. Successful communication in a cross-cultural setting brings about more wealth, peace, and opportunity, whereas failure in this respect likely entices more prejudice, conflict, and hostility. In an epoch of information, digitalization, and globalization, we are enjoying a more colorful and diverse life than ever before. Meanwhile, we have noticed that a constellation of events has been experienced and documented in cross-cultural communication. Some of them are good, successful, and pleasant. Some of them are bad, unsuccessful, and disgusting. To further enrich your knowledge in cross-cultural communication and enhance your strategic performance in this respect, we have collected some and report them here as case studies.

1. When in Rome do as the Romans do

Linguistic forms are different from one language to another. Semantic selections vary across separate language systems. One thing you can conveniently say in a language may not be so in another language. This difference makes cross-cultural communication not an easy job to deal with. Ample examples can be given when we take a cross-linguistic perspective and compare issues related pronominal usage, address forms and greeting expressions. Table 1 below tabulates a six-person system across languages (Ingram, 1978: 219).

Table 1 Six-Person System

singular	plural
I	we
thou	you
he	they

A cross-linguistic survey of the pronominal usage reveals that modern English is rather unique in the use of its second pronoun. For instance, most European and Asia languages not only allow the speakers to make a difference in a pure linguistic sense (i.e., the choice between the singular and plural second person forms) but provide them with a meaning potential to make a choice in a sociolinguistic sense (i.e., the selection between the polite and familiar second person forms) (Yang, 1998: 159). The latter contrast, roughly similar to the one we have between *ni*(你) and *nin*(您) in Mandarin Chinese, no longer exists in modern English, though it was still very active in Shakespeare's Age. For instance, in *Twelfth Night*, Sir Toby tells Sir Andrew how to irritate his opponent by addressing him with a familiar pronoun "thou": "If thou *thou'st* him some thrice, it shall not be amiss" (Act 3, Scene 2, 50–51). On the other hand, we observe that in Mandarin Chinese people still need to make a choice between the familiar form *ni* and the polite form *nin* when they want to address their communicators appropriately. Now the question is how speakers from these two cultural backgrounds solve this problem when communicating with each other. A short dialogue quoted from *Jane Eyre* (Chapter 1) may help explain the perplexing situation.

"What do you want?" I asked, with awkward diffidence.

"Say, What do *you* want, *Master Reed*? " was the answer.

As the second line above shows, modern English relies on a combination between pronouns and address forms to convey subtle interpersonal relationships, thus forming a semantic continuum to show the contrast between power and solidarity. For instance, an American may choose one of the following sentences to show the social distance he or she would like to keep with the addressee (Hook, 1984: 187):

- 1) I'm Mr. Jones. (Title + Last Name for politeness and formality)
- 2) I'm Jones. (Last Name Only for politeness and formality)
- 3) I'm John. (First Name Only for familiarity and intimacy)

The difficulty of choice does not stop here and it may even go into greeting

forms we have to choose in cross-cultural communication. When two British people meet, they may greet each other by saying something about the weather.

A: It's a nice day, isn't it?

B: Yes, it's such a warm day!

How about Chinese people? They may greet each other in this way: "Where are you going?" or "Have you eaten?" For most westerners, these lines sound far too personal or private, if not nosy. If this happens in a cross-cultural context and is not taken culturally, it may bring about unhappiness and misunderstanding. *The Guardian*, an influential newspaper in Britain, has recently carried an interesting column essay on the same issue (Xin Ran, 2005). To help you know more about the cultural difference in this matter and avoid new stereotypes in greeting usage, we quote part of the paper and present it as follows.

Food for Talk

The weather is generally what you talk about with the British as a safe way to start a conversation or if you have nothing much else to say. But what about with Chinese people? That'll be food or health.

"Have you eaten?" "Ni chi le ma?" is the most important, most popular sentence in the Chinese language, used wherever and whenever, even if you just meet someone in the street at midnight. It is not necessary to answer precisely when you ate or what you had, a simple "yes, I have" or "chi le" is enough. That means you are not hungry, your life isn't bad; it also means you have nothing much to talk about or you are in hurry. If you answer "not yet" "mei ne" or "what about you?" "ni ne?", that means you want to keep that person's attention. Or if you want to tell them something but not necessarily about food, then you could go on "why not?" "wei shen ma?".

Westerners don't understand why food and health have become such a popular topic in Chinese daily life. This comes down to more than 5,000 years of Chinese history. As far as I understand, you need to go back to historical records from about 1300 BC, when Chinese rulers started to tell people what you could or couldn't say or do.

But, I have to say, I still can't work out why the British, who have been living in a much further advanced civilisation, still choose the weather as a safe way to start their conversation.

2. Put yourself in other's shoes

Successful communication in a cross-cultural setting depends much on a sensible interpretation and prediction of what the other party will think, feel, and behave when some crucial things occur. But how to acquire this sensitivity is a great challenge. Reasons for this difficulty are multiple. Your linguistic knowledge in the target language is one. Your understanding of the target culture is another. Your consciousness of the nature of the target nation is a third. Your caution to the occurrence of rash and risky assumption is a fourth. What is given below is a price lesson documented in cross-cultural communication. Retelling of this bad story suggests that real communication is based on a holistic understanding of the target language, culture, and society.

When World War II was drawing to a close, a historically important document (i. e., the Potsdam Proclamation) was signed to urge Japan to accept an unconditional surrender (Yang, 2004b: 59 — 60). In the following press interview, the prime minister of Japan declared that his government would take a *mokusatsu* (黙殺) policy to this statement. *Mokusatsu* can be used in Japanese to express either “make no comment” or “ignore”. The choice of one meaning over another depends much on one's understanding of the situation in question. When translating the word into English, western interpreters at the interview chose the latter meaning. The strong attitude suggested by this policy led the American Government to make an awful decision—dropping two atomic bombs on Japan and killing numerous innocent citizens. Recalling this miserable event, some critics believe that it is cross-cultural miscommunication that led to this disaster. Strongly influenced by different cultural traditions, Americans and Japanese tend to behave differently. When dealing with perplexed matters, the former wants to take an immediate action, while the latter prefers to have more thinking before acting. Following this line of reasoning, one may assume that by *mokusatsu*, the Japanese prime minister meant delaying his decision, while American interpreters, coming from a nation of action, chose an “ignore” reading of this word (Stewart, 1983).

3. One culture's meat is another culture's poison

Proverbs epitomize the essence of culture and the value system of society. A cross-linguistic survey of proverbial expressions will capture another point of interest: How do people from different cultures look at their relationships with animals? A ready example is found in English “Love me, love my dog”. An equivalent in Chinese will be “Love me, love my bird” (爱屋及乌). These two proverbs reveal different attitudes English and Chinese speakers cherish toward these pets. This disparity, if not cautioned, will invite unpleasantness in society.

As the following event indicates, a dog or a chow (雄狮狗) in English-speaking society is regarded as a lovely pet but in Chinese-speaking society, it will produce a rather different association or social meaning, providing a case in point to show that one culture's meat is another culture's poison.

In the early spring of 2003, users of the CECT in China noticed that when they turned on their mobile phones, a greeting expression "Hello, Chow" appeared on the screens of their phones. This made some users rather uncomfortable when they got to know that the word "chow" is defined as "a Chinese dog with long hair and bluish-black tongue". So they wrote to newspapers and wanted to know if it was an insulting expression. The news spread rapidly and echoed warmly. In the following days, so many questions and complaints came in that the company had to give a press interview to clear up the situation. Officials from the CECT explained that "Hello, Chow", just like "Hello, Kitty", was a new design developed to appeal to young women customers and suggested no negative implication at all on the manufacturer's part. Admittedly, this is an acceptable explanation but a more appropriate treatment of this issue has definitely to do with a sociolinguistic understanding of linguistic taboo. Unawareness of the fact that the road to successful cross-cultural communication is an extremely thorny one, full of linguistic pitfalls and cultural traps, will lead to serious and unexpected blunders. The following unpleasant experience Chinese students had when visiting the city of New York provides another convincing example. Their sad story shows that "Hello", the most common greeting word in English, if used inappropriately, will throw innocent cross-cultural communicators in a rather embarrassing situation.

What Is Wrong with Their "Hello"?

A group of Chinese girls who just arrived at the United States for their university education decided to visit the city of New York together. Since their school was not very far from the city, so they planned to take a Greyhound bus to go there at weekend. Saturday morning, they got up early and after two hours' drive they got to the downtown of the city. They stayed there for a couple of hours, shopping and sightseeing happily. Everything seemed OK until it was the time for them to go back—they suddenly realized that they lost their way back to the Greyhound bus station. What made the situation worse was that it was getting darker. In despair, they stopped at a corner on the street and decided to ask for help. At this moment they saw a young couple passing by so they said "Hello!" to this couple. To their surprise, the couple looked at them coldly and hustled on. Having no way out, they approached to the next group of passers-by and tried a

louder "Hello" this time. Again they got nothing but a cold shoulder from these city people.

Careful readers may have already realized what went wrong with the linguistic form used by these Chinese women. In a public setting like this, English speakers would use "excuse me" rather than "hello" to attract others' attention so that further help would be possible. Unaware of this usage distinction and in this specific context, their inappropriate use of "hello" made passers-by think that they were possibly street girls who were trying to attract customers.

As these case studies suggest, an expression is likely to take on different social significance, good or bad, friendly or hostile, depending on a very important sociolinguistic rule of communication: Who speaks what, to whom, when, where, and for what purpose (Fishman, 1972: 46). Similarly, correct interpretation and smooth communication rely on a group of relevant factors. The implication the speaker wants to convey is one. The social relationships existing between interlocutors become another. And a specific setting where communication takes place constitutes a third. If these pre-conditional requirements are not met, a blind adoption of some fancy expressions from other cultures, as the chow's case and Chinese girls' story show, will produce compliant, unpleasantness, and misunderstanding in a new cultural context.

4. Honesty and sincerity are key points to mutual understanding

West and East, where can the twins meet? This is a dream cherished by many people for a long time. Our case studies, however, reveal that there will be a long way to go before we can find a satisfactory answer to the question. Being a student of linguistics, you may ask "Where is the way out?" Rich communicative knowledge, high cultural consciousness, and good linguistic performance are necessary prerequisites for becoming a good cross-cultural communicator. Meanwhile, we also notice that attitude or gesture matters a lot. We believe that honesty and sincerity are the bridge that will help you transcend cultural barriers and become a good communicator in cross-cultural communication.

7.4 Summary

When we study the relationships between language, culture, and society, we believe that an evolutionary approach will provide researchers with an optimal perspective and should be encouraged. The beginning of the new millennium has

witnessed an important development in theoretic and cognitive linguistics. Noam Chomsky and two psychologists at Harvard University jointly published an influential article entitled “The Faculty of Language: What Is It, Who Has It, and How Did It Evolve?” (Hauser, Chomsky & Fitch, 2002). A kernel point suggested by this paper is that an evolutionary pursuit of linguistic matters should be made by adopting a multidisciplinary perspective for new theorizing in linguistics. Other equally innovative ideas given by these researchers are that a distinction should be made between the faculty of language in the broad sense (FLB) and in the narrow sense (FLN), and that “FLN only includes recursion and is the only uniquely human component of the faculty of language” (Hauser, Chomsky & Fitch, 2002: 1569). Admittedly, these concepts are full of originality and will enrich linguistic science and encourage more meaningful work both in linguistic theorizing and interdisciplinary pursuit of linguistic issues.

In our discussion above, we have introduced some important theories and practices in a sociocultural inquiry of linguistic issues. As we have indicated, a more systematic pursuit of these matters did not start until the 1960s, with the occurrence of sociolinguistics as a new force in the study of language. After almost 40 years’ development, this innovative movement has gained much momentum and vitality by incorporating the insights from other relevant sciences and has gradually secured its position as a legitimate pursuit in linguistics (Chomsky, 1995). On the other hand, as has been shown above, the study of the relationships between language, culture, and society is a rather intriguing task. One of the difficulties observed in this attempt is the diversity in subject matters. The interdisciplinary nature of this pursuit requires satisfactory mastery of knowledge in relevant fields such as anthropology, sociology, social psychology, ethnology, and cognitive sciences on the part of its researchers and practitioners (Rosch, 1975 & 1977). Therefore, we fully understand that what is presented above is only a small part of the whole edifice. Much of its beauty and fascination is still there waiting for the conscious and courageous explorer to search and discover. That said, we suggest that the interested students go to the bibliographic part of this chapter for more information concerning their further study in this respect.

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Language in Use

In the chapter on semantics, we said that the word *meaning* may have many different meanings, and we discussed some of them there. But there is one important type of meaning we did not touch on at all. Suppose somebody says to you “*You’re a fool*”, you would more often than not retort “*What do you mean?*” It is not that you do not know the meaning of any word in the sentence, or the words are combined in a too complicated way for you to understand. You know perfectly well the reference of *you*, the sense of *fool*, and the structure of the sentence. What you do not know is the speaker’s intention in uttering this sentence, what he intends the sentence to mean. Or rather, you do know the speaker’s intention, but you want to use “*What do you mean?*” as a denial of what he has asserted. You used your own sentence with a meaning other than the conceptual.

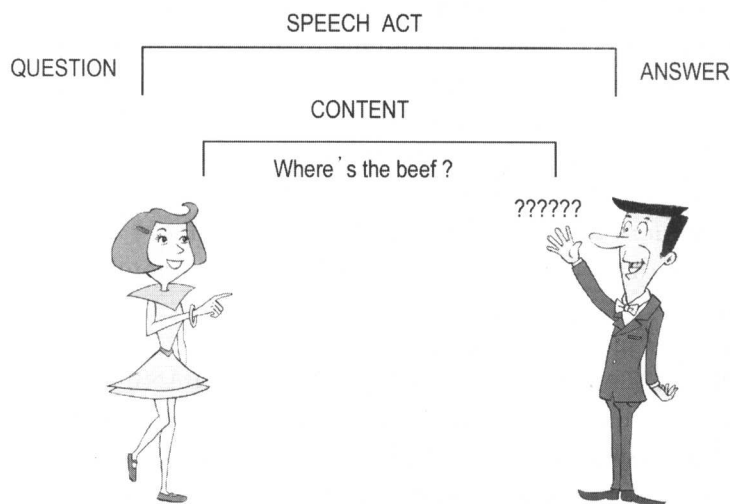
This kind of meaning is sometimes referred to as **SPEAKER’S MEANING**, **UTTERANCE MEANING** ^①, or **CONTEXTUAL MEANING**. It differs from the kinds of meaning we studied in semantics in that its interpretation depends more on who the speaker of the sentence is, who the hearer is, when and where it is used. In a word, it depends more on the context. The discipline which concentrates on this kind of meaning is called **PRAGMATICS**. Since this kind of meaning comes partly from the use of language in a context, pragmatics may also be defined as the study of language in use. If we divide meaning into two major sides; the side more closely related to the words used, the more constant, inherent side of meaning (which is studied under the heading of semantics) and the side more closely related to the context, the more indeterminate side, or

① “Utterance” may be defined as a piece of actually used language. In this sense we can divide the study of meaning into two types. One is concerned with the meaning of words and sentences, as abstract units of the language system; the other is concerned with the meaning of utterances, as units of language in use. But the two terms “sentence” and “utterance” are not always clearly distinguished in the literature.

something extra (which is studied under the heading of pragmatics), then we can say pragmatics = meaning-semantics.

8.1 Speech Act Theory

This is the first major theory in the study of language in use, which originated with the Oxford philosopher John Langshaw Austin. Austin began to give lectures on his theory in 1952. In 1955, when he went to America to deliver the William James lectures, he revised the notes and changed the title from *Words and Deeds* to *How to Do Things with Words*, which was published posthumously in 1962.



8.1.1 Performatives and Constatives

Austin's first shot at the theory is the claim that there are two types of sentences: performatives and constatives. In his *How to Do Things with Words*, Austin argues that sentences like the following do not describe things. They cannot be said to be true or false. The uttering of these sentences is, or is a part of, the doing of an action. So they are called PERFORMATIVES. And verbs like *name* are called performative verbs.

Ex. 8-1

- a. I *name* this ship the Queen Elizabeth.
- b. I *bequeath* my watch to my brother.
- c. I *bet* you sixpence it will rain tomorrow.

- d. I *promise* to finish it in time.
- e. I *apologize*.
- f. I *declare* the meeting open.
- g. I *warn* you that the bull will charge.

In contrast, ex. 8 – 2 said by a chemistry teacher in a demonstration of an experiment is not a performative. It is a description of what the speaker is doing at the time of speaking. The speaker cannot pour any liquid into a tube by simply uttering these words. He must accompany his words with the actual pouring. Otherwise one can accuse him of making a false statement. Sentences of this type are known as **CONSTATIVES**.

Ex. 8 – 2

I pour some liquid into the tube.

Though performatives cannot be true or false, there are still conditions for them to meet to be appropriate or felicitous. A simplified version of the **FELICITY CONDITIONS** suggested by Austin is as follows:

- A. (i) There must be a relevant conventional procedure, and
(ii) the relevant participants and circumstances must be appropriate.
- B. The procedure must be executed (i) correctly and (ii) completely.
- C. Very often, (i) the relevant people must have the requisite thoughts, feelings and intentions, and (ii) must follow it up with actions as specified.

Thus, in the case of a ship-launching ceremony, only the person appointed has the right to name the ship, and this person must say the relevant words in accordance with the procedure; the person who bequeaths his watch must have a watch; the person who bets it will rain the next day must give the other participant sixpence if it turns out to be a fine day.

However, Austin soon realized that these conditions only apply to some cases. There are other cases in which one does not need a conventional procedure to produce a performative. To make a promise, for example, one can either say “*I promise*” or “*I give my word for it*”. There is no strict procedure for doing it. On the other hand, the so-called constatives may also be infelicitous in these ways. “*The present King of France is bald*” is infelicitous in the same way as “*I bequeath my watch to my brother*” said by somebody without a watch. They both presuppose the existence of something, which does not actually exist. And people making statements must also have requisite thoughts, feelings and intentions. One cannot say “*The cat is on the mat, but I don’t believe it.*”

Then Austin explored the possibility of separating performatives from constatives on grammatical and lexical criteria. He noticed that typical

performatives use first person singular subject, simple present tense, indicative mood, active voice, and performative verbs. But there are also counterexamples. Passive performatives like “*Pedestrians are warned to keep off the grass*” are common. In informal situations, other moods and tenses are also possible. Instead of “*I order you to turn right*”, one can simply say “*Turn right*”. In place of “*I find you guilty*” the jury may say “*You did it*”. The clearest example is, perhaps, “*Thank you.*” It apparently looks like an imperative, without a subject. Yet it is a performative. By uttering these words, you have expressed your gratitude to the hearer. There is no need to do any other things, though people sometimes jokingly say “*You can’t just thank me with words.*”

On the other hand, even the most typical constative verb *state*, which is used to describe things, may be used to do things. In uttering “*I state that I’m alone responsible*”, the speaker has made a statement and undertaken the responsibility. In other words, it seems that the distinction between performatives and constatives cannot be maintained. All sentences can be used to do things.

8.1.2 A Theory of the Illocutionary Act

In the latter part of *How to Do Things with Words*, Austin made a fresh start on the problem and considered it from the ground up again, i. e. in what sense to say something is to do something. In his opinion, there are three senses in which saying something may be understood as doing something. The first sense is an ordinary one. That is, when we speak we move our vocal organs and produce a number of sounds, organized in a certain way and with a certain meaning. In this sense, when somebody says “*Morning!*”, we can ask a question like “*What did he do?*” instead of “*What did he say?*” And the answer could be that he produced a sound, word or sentence—“*Morning!*” The act performed in this sense is called a LOCUTIONARY ACT. Within this act, however, Austin suggests that there is another act. “[I]n performing a locutionary act we shall also be performing such an act as: asking or answering a question, giving some information or an assurance or a warning, announcing a verdict or an intention, pronouncing sentence, making an appointment or an appeal or a criticism, making an identification or giving a description, and the numerous like” (1962: 98 – 99). For example, to the question “*What did he do?*” when the person concerned said “*Morning!*”, we could perfectly well say “*He offered a greeting.*”

In other words, when we speak, we not only produce some units of language with certain meanings, but also make clear our purpose in producing them, the way we intend them to be understood, or they also have certain forces

as Austin prefers to say. In the example of "*Morning!*" we can say it has the force of a greeting, or it ought to have been taken as a greeting. This is the second sense in which to say something is to do something, and the act performed is known as an ILLOCUTIONARY ACT. Austin acknowledges that "force" can be regarded as part of "meaning", when the latter is used in a broad sense. So in the example we are considering, we can also say "*He meant it as a greeting*". In the retort "*What do you mean?*", which we introduced at the beginning of this chapter, the word *mean* is used in the broad sense, too. But Austin thinks it is better to distinguish *force* from *meaning*, with the latter used in a narrow sense, or what we called the more constant, inherent side of meaning. Thus interpreted, force, or ILLOCUTIONARY FORCE, may be said to be equivalent to speaker's meaning, contextual meaning, or extra meaning, and may be translated into Chinese as 言外之意. But "illocutionary act" cannot be translated as 言外行为, since the prefix *-il*, as we have made clear, means "in, within", not "not".

The third sense in which to say something can mean to do something concerns the consequential effects of a locution upon the hearer. By telling somebody something the speaker may change the opinion of the hearer on something, or mislead him, or surprise him, or induce him to do something, etc. Whether or not these effects are intended by the speaker, they can be regarded as part of the act that the speaker has performed. This act, which is performed through, by means of, a locutionary act, is called a PERLOCUTIONARY ACT.

For example, by saying "*Morning!*" to someone, the speaker has made it clear that he wants to keep friendly relations with the hearer. This friendliness on the speaker's side will definitely have effects on the hearer. When the two interlocutors are on normal terms, the effect may be negligible. But if there were any tensions between them, a simple "*Morning!*" from one side may bring about great changes in their relationship. The other may accept his show of friendship, and be friends with him again. In this case, we can say "*He's made peace with his friend*" in response to the question "*What did he do?*" when the person concerned said "*Morning!*". On the other hand, the hearer may have some prejudice against the speaker, and take his friendliness as an instance of hypocrisy. As a result, the speaker's greeting may lead their relationship from bad to worse. Though this effect is not what the speaker had originally intended, it is still a perlocutionary act performed by him. This brings up another difference between the illocutionary act and perlocutionary act, i.e. one is related to the speaker's intention and the other not.

Defined in this way, the locutionary act is what linguists have been studying all along. That is, how sounds, words and sentences are made, and what inherent meanings they have. The perlocutionary act involves many psychological and social factors, of which we are still more or less in the dark. So the illocutionary act is what Austin really driving at. In this sense, speech act theory is in fact a theory of the illocutionary act.

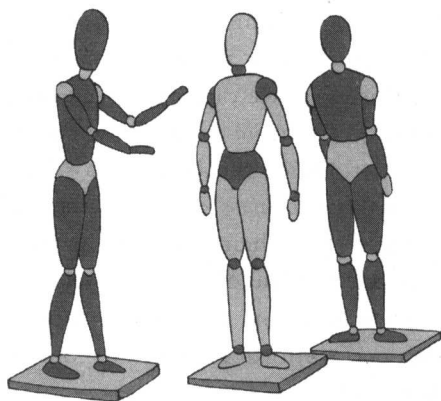
In this general theory then, which applies to all sentences, the original performatives are only a special type in which the illocutionary force is made explicit by the performative verb.

8.2 The Theory of Conversational Implicature

The second major theory in pragmatics is the theory of conversational implicature, proposed by another Oxford philosopher Herbert Paul Grice. There is evidence that Grice began to formulate his ideas of this theory in the fifties, but it was through the William James lectures he delivered at Harvard in 1967 that this theory first became known to the public. Part of the lectures was published in 1975 under the title of "Logic and Conversation", on which we base our present introduction.

8.2.1 The Cooperative Principle

Grice noticed that in daily conversations people do not usually say things directly but tend to imply them. For example, when A and B are talking about their mutual friend C, who is now working in a bank, and A asks B how C is getting on, B might answer "Oh quite well, I think; he likes his colleagues, and he hasn't been to prison yet." Here B certainly implied something, though he



did not say it explicitly. Grice argues that we can make a distinction between what B said in this case and what he implied, suggested or meant. To make the point clearer, we can have a look at a Chinese example from a film. A boy says to a girl "你不戴眼镜的时候很漂亮", and the girl immediately responds "我戴眼镜的时候一定很丑了". Now the boy may have reason to deny that the girl's interpretation is

what he said. But he may not be able to deny in all fairness that this is, at least partly, what he implied. In order to avoid the logical use of implication, which we touched on in the section on logical semantics, Grice coined the term implicature. And he explored the question how people manage to convey implicature, which is not explicitly expressed.

His answer is that there is some regularity in conversation. "Our talk exchanges do not normally consist of a succession of disconnected remarks, and would not be rational if they did. They are characteristically, to some degree at least, cooperative efforts; and each participant recognizes in them, to some extent, a common purpose or set of purposes, or at least a mutually accepted direction" (1975: 45). In other words, we seem to follow some principle like the following: "Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged" (ibid.). And this principle is known as the COOPERATIVE PRINCIPLE, or CP for short.

To specify the CP further, Grice introduced four categories of maxims as follows:

QUANTITY

1. Make your contribution as informative as is required (for the current purposes of the exchange).
2. Do not make your contribution more informative than is required.

QUALITY

Try to make your contribution one that is true.

1. Do not say what you believe to be false.
2. Do not say that for which you lack adequate evidence.

RELATION

Be relevant. ①

MANNER

Be perspicuous.

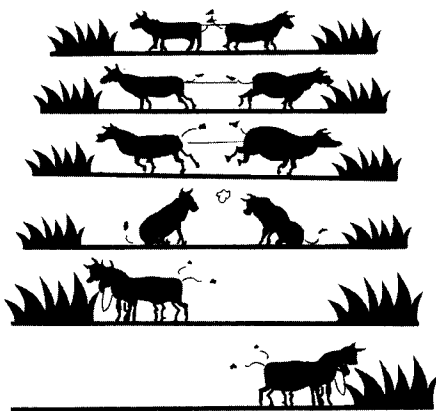
1. Avoid obscurity of expression.
2. Avoid ambiguity.

① Grice notes that there may be some overlap between the second Quantity maxim and the maxim of Relation. The excessive information will be something irrelevant. So perhaps the second Quantity maxim is not necessary. The exact interpretation of the Relation maxim has led to heated arguments among linguists later, which we will come to in detail in the discussion about post-Gricean development.

3. Be brief (avoid prolixity).

4. Be orderly. (ibid. : 45 - 46)

The fact that the cooperative principle and its component maxims are expressed in the imperative has misled many readers to regard them as prescriptive; telling speakers how they ought to behave; while the truth is that the CP is meant to describe what actually happens in conversation. That is, when we speak we generally have something like the CP and its maxims in our mind to guide us, though sub-consciously, or even unconsciously.



We will try to say things which are true, relevant, as well as informative enough, and in a clear manner. Hearers will also try to interpret what is said to them in this way. In the example of somebody working in a bank, A will assume that all the information provided by B is relevant. There must be a point in B's telling him that C likes his colleagues, and he hasn't been to prison yet. In this way, A will try to work out B's implied meaning, or the IMPLICATURE. Sometimes, a speaker will be fully aware of the possible implicatures of his speech, and if he does not want the hearer to interpret it in a particular way, then he will make it plainly clear that he does not intend that particular implicature. A case in point is an utterance from Premier Zhu Rongji's speech at MIT, April 14th, 1999. Premier Zhu began his talk with a reference to MIT, saying that when he was in Tsinghua, which was known as China's MIT, he wished he could have a chance to study and get a degree at MIT some day. Now he went on, "但是, 校长先生请不要误会, 我绝对不是要个荣誉学位".

In this sense, the CP may be compared to unwritten laws, such as, "women and children are saved first from sinking ships"; "one is not supposed to make personal comments at academic conferences"; "礼尚往来"; "两军对阵, 不斩来使".

8.2.2 Violation of the Maxims

The use of terms such as "principle" and "maxim" does not mean that the CP and its maxims will be followed by everybody all the time. People do violate them and tell lies. So the second half of Grice's "Logic and Conversation" is devoted to a discussion of violations.

But Grice first distinguishes telling lies from other types of violation. In his view, conversational implicatures can only be worked out on the basis of the CP. If somebody deliberately conceals facts from his hearers, the basis for accurate interpretation is lost, though a liar succeeds only when his hearers assume that he is observing the CP. In other words, lies do not have implicatures proper. So the cases Grice discusses are all blatant, apparent violations. The speaker has shown it clearly that some maxims are violated, yet at a deeper level the CP can still be thought to be upheld.

Concerning the first maxim of Quantity, he uses as an example an imagined reference letter by A for his past student X, who is applying for a lectureship in philosophy, and it reads: "Dear Sir, Mr. X's command of English is excellent, and his attendance at tutorials has been regular. Yours, etc." Grice comments "A cannot be opting out, since if he wished to be uncooperative, why write at all? He cannot be unable, through ignorance, to say more, since the man is his pupil; moreover, he knows that more information than this is wanted. He must, therefore, be wishing to impart information that he is reluctant to write down. This supposition is tenable only on the assumption that he thinks Mr. X is no good at philosophy. This, then, is what he is implicating" (ibid.: 52).

Sometimes the first Quantity maxim will be in conflict with the Quality maxim. Suppose A asks B where C lives, and B answers "Somewhere in the south of France". B has obviously not given enough information, but the reason may be that he does not know the exact answer himself. In order to uphold the Quality maxim, he has chosen to violate the first maxim of Quantity.

And tautologies like *Boys are boys* and *War is war* are extreme examples in which the first Quantity maxim is violated. At the superficial level, the level of what is said, they are totally uninformative. At a deeper level, the level of what is implicated, however, they are informative. They may convey implicatures like "Boys are naughty and mischievous by nature", "It's no use lamenting the tragedies of war. Terrible things always happen in it. That's its nature."

An example in which the second maxim of Quantity is violated will be:

Ex. 8 - 3

A: Where is X?

B: He's gone to the library. He said so when he left.

In a sense, the first part of B's answer is enough for A's question. But by adding the second part, the speaker may implicate that he is not sure whether X has really gone to the library.

The examples Grice provides for the violation of the first Quality maxim are all traditional figures of speech like ex. 8 - 4 and 5.

Ex. 8-4

He is made of iron.

Ex. 8-5

Every nice girl loves a sailor.

That is, at the level of what is said, they are false statements. No natural human being is made of iron, unless he is a robot. So ex. 8-4 will not be taken literally. Instead we will interpret it as a metaphor, meaning this man has a character like iron. In the case of ex. 8-5, the implicature is that many girls love sailors.

In cases when we do not have adequate evidence, we will usually qualify our utterances by "It may be the case that...", or "I'm not sure but...".

As for the maxim of Relation, Grice thinks "Examples in which an implicature is achieved by real, as distinct from apparent, violation of the maxim of Relation are perhaps rare, but the following seems to be a good candidate. At a genteel tea party, A says 'Mrs. X is an old bag.' There is a moment of appalled silence, and then B says 'The weather has been quite delightful this summer, hasn't it?' B has apparently refused to make what HE says relevant to A's preceding remark. He thereby implicates that A's remark should not be discussed and, perhaps more specifically, that A has committed a social gaffe" (ibid. : 54).

The following may be seen as a case in which B is being deliberately obscure, so that the children will not be able to understand what they are talking about.

Ex. 8-6

A: Let's get the kids something.

B: Okey, but I veto I-C-E C-R-E-A-M-S.

When illustrating the violation of the ambiguity avoidance maxim, Grice uses as an example William Blake's lines "*Never seek to tell thy love, Love that never told can be.*" In this case, *love* may refer to an emotion or the person one loves. And "*Love that never told can be*" may mean either "Love that cannot be told" or "Love that if told cannot continue to exist".

And if a reviewer has chosen ex. 8-7b rather than 7a, then the prolixity implicates that Miss X's performance is so poor that the word "sing" cannot be applied.

Ex. 8-7

a. Miss X sang "Home sweet home".

b. Miss X produced a series of sounds that corresponded closely with the score of "Home sweet home".

Grice did not give any example of disorder, which is understandable in that generally a disordered utterance will not convey anything but the fact that the speaker is mentally unsound. *They had a baby and got married* is not a disordered version of *They got married and had a baby*. They are both ordered, though, in their own different ways. But the Chinese example 屡败屡战 may be seen as an instance of the exploitation of this maxim.

8.2.3 Characteristics of Implicature

Toward the end of his "Logic and Conversation", Grice mentioned briefly some characteristics of conversational implicature. In what follows we summarize Grice's ideas in the light of other linguists' elaborations.

(i) CALCULABILITY

The fact that speakers try to convey conversational implicatures and hearers are able to understand them suggests that implicatures are calculable. They can be worked out on the basis of some previous information. In his paper, Grice lists the necessary data as follows:

(1) [T]he conventional meaning of the words used, together with the identity of any references that may be involved; (2) the CP and its maxims; (3) the context, linguistic or otherwise, of the utterance; (4) other items of background knowledge; and (5) the fact (or supposed fact) that all relevant items falling under the previous headings are available to both participants and both participants know or assume this to be the case. (ibid. : 50)

And he suggests there is a general pattern for the working out of a conversation implicature. That is, when somebody says something, which apparently does not make sense at the superficial level, the level of what is said, you will not simply think that he is talking nonsense and stop thinking about it any more. You will instead try to find out its implied meaning at a deeper level. And if on the basis of every information available, there is one interpretation which may support your previous assumptions, then you will take it as the real point the speaker is trying to get across. For example, in the case of the reference letter, the reader will not simply think it utterly useless and throw it away immediately after the first reading. He will assume that the writer is still following some normal practices like the CP and tries to say something true and relevant. Since the most important thing is whether Mr. X is qualified for the job, about which the letter includes nothing explicitly, the reader will have to assume that the writer has some negative views on that.

(ii) CANCELLABILITY

Cancellability is also known as DEFEASIBILITY. We said that the presence of a conversational implicature relies on a number of factors: the conventional meaning of words used, the CP, the linguistic and situational contexts, etc. So if any of them changes, the implicature will also change. For example, ex. 8-8a usually implicates (b). But if the speaker adds "if not more" to (a), to change it to (c), then the previous implicature (b) is cancelled, or defeated. And (c) means (d).

Ex. 8-8

- a. John has three cows.
- b. John has only three cows.
- c. John has three cows, if not more.
- d. John has at least three cows.

In the case of the reference letter, if the writer adds "though I don't mean he's no good at philosophy", then the original implicature is no longer there. The example of Premier Zhu's speech at MIT also shows that implicatures can be cancelled by additional clauses.

A conversational implicature may even be cancelled simply by the situational context. If to have three cows is a condition for anyone to get a subsidy from the government, then when the inspector asks John's neighbour (e), he could very well answer (f), without implicating (b).

- e. Has John really got the requisite number of cows?
- f. Oh sure, he's got three cows all right.

Again in the case of the reference letter, if the student is applying for a lectureship in English, then this letter becomes a favourable comment.

(iii) NON-DETACHABILITY

By NON-DETACHABILITY is meant that a conversational implicature is attached to the semantic content of what is said, not to the linguistic form. Therefore it is possible to use a synonym and keep the implicature intact. In other words, an implicature will not be detached, separated from the utterance as a whole, even though the specific words may be changed. For example, ex. 8-9a-e said ironically will all implicate ex. 8-10.

Ex. 8-9

- a. John's a genius.
- b. John's a mental prodigy.
- c. John's an exceptionally clever human being.
- d. John's an enormous intellect.
- e. John's a big brain.

Ex. 8 – 10

John's an idiot.

In response to "*Mrs. X is an old bag*", the example Grice uses for the violation of the Relation maxim, any utterance which is not directly related to it will generate the implicature "You shouldn't talk about that now". One does not have to say "*The weather has been quite delightful this summer, hasn't it?*" Utterances like "*What a beautiful dress!*" "*Your son's very smart!*" "*The music's great!*" will all do.

Conversational implicatures related to the Manner maxims, however, are an exception to this characteristic, as they rely on the form rather than the content. "But I veto I-C-E-C-R-E-A-M-S" replaced by "But don't give them ice creams" would give the game away.

(iv) NON-CONVENTIONALITY

Conversational implicature is by definition different from the conventional meaning of words. To show the differences more clearly, we can have a look at some examples of entailment. In the chapter on semantics, we said that ENTAILMENT is a logical relationship between two sentences in which the truth of the second necessarily follows from the truth of the first, while the falsity of the first follows from the falsity of the second. We exemplified it with sentences like the pair in ex. 8 – 11. Now sentence ex. 8 – 8a, which has implicatures like 8 – 8b, also has entailments as shown in ex. 8 – 12a-g.

Ex. 8 – 11

- a. I saw a boy.
- b. I saw a child.

Ex. 8 – 12

- a. John has some cows.
- b. John has some animals.
- c. John has something.
- d. Somebody has three cows.
- e. Somebody has some cows.
- f. Somebody has some animals.
- g. Somebody has something.

As is clear from the examples, entailment is part of the conventional meaning. Part of the meaning of *cow* is "It refers to an animal". To know the meaning of *John* partly means to know "It is a name of a person", so it can be replaced by *somebody*. If you do not know the entailment of a word, you simply have to look it up in a dictionary. There is no way to work out an entailment on the basis of the CP and the context.

Another consequence of its being conventional is that entailment is constant in all contexts. ex. 8 – 8a will always have the entailments in ex. 12. There is no context in which while ex. 8 – 8a is true but any of ex. 8 – 12a-g is not true. In this sense, entailment is determinate. In contrast, implicature is indeterminate, which varies with the context. And this is sometimes seen as another characteristic of conversational implicature.

At the end of the discussion, we may summarize CONVERSATIONAL IMPLICATURE as a type of implied meaning, which is deduced on the basis of the conventional meaning of words together with the context, under the guidance of the CP and its maxims. In this sense, implicature is comparable to illocutionary force in speech act theory in that they are both concerned with the contextual side of meaning, or 言外之意 in Chinese. And these two theories differ only in the mechanisms they offer for explaining the generation of contextual meaning.

8.3 Post-Gricean Developments

The theory of conversational implicature has opened a new way of explaining the use of language, and caught the attention of linguists immediately. However, there is some inconsistency and redundancy among the CP and its maxims. Linguists of the post-Gricean period, therefore, have sought to boil down the maxims to a set of principles, which are truly indispensable and do not overlap at the same time. In this section, we shall discuss three such suggestions.

8.3.1 Relevance Theory

This theory was formally proposed by Dan Sperber and Deirdre Wilson in their book *Relevance: Communication and Cognition* in 1986. They argue that all Gricean maxims, including the CP itself, should be reduced to a single principle of relevance, which is defined as:

Every act of ostensive communication communicates the presumption of its own optimal relevance. (p. 158)^①

① In the second edition, Sperber and Wilson note that there are in fact two relevance-based principles. And they renamed this principle Communicative Principle of Relevance, and added the other, known as Cognitive Principle of Relevance: Human cognition tends to be geared to the maximisation of relevance.

To understand this definition, we need to be clear about the key notions in it: "ostensive communication" and "presumption of optimal relevance". They agree with Grice that communication is not simply a matter of encoding and decoding, it also involves inference. But they maintain that inference has only to do with the hearer. From the speaker's side, communication should be seen as an act of making clear one's intention to express something. This act they call ostensive act. In other words, a complete characterization of communication is that it is ostensive-inferential. And "ostensive communication", or "inferential communication", is a shorthand.

To explain "presumption of optimal relevance", we shall first have a look at the three definitions of relevance in this book. The first definition relates it to a context.

An assumption is relevant in a context if and only if it has some contextual effect in that context. (p.122)

But relevance is also a comparative concept. Some assumptions may be more relevant than others. What is more, "The assessment of relevance, like the assessment of productivity, is a matter of balancing output against input" (p.125). It does not only depend on the effect produced by it but also on the effort required to process it. So they have improved on the previous definition by adopting an extent-conditions format:

Extent condition 1: an assumption is relevant in a context to the extent that its contextual effects in this context are large.

Extent condition 2: an assumption is relevant in a context to the extent that the effort required to process it in this context is small. (ibid.)

Then they consider at length the question of what exactly context means. They find that sometimes context will have to include all the background information, otherwise it will be difficult to process some assumptions. Sometimes, however, some information must be excluded, otherwise the effort will be enlarged without increasing the effect. In other words, the size of context is determined by the assumption to process. It is not given, but chosen. It is not that there is a context, on which the relevance of an assumption depends. What is given is relevance. People generally assume that the assumption they are processing is relevant (otherwise they would not bother to process it), then try to find a context in which its relevance will be maximized.

Their second definition of relevance relates it to an individual.

An assumption is relevant to an individual at a given time if and only if it is relevant in one or more of the contexts available to that individual at that time. (p.144)

And the last definition they offer involves the characterization of relevance “not just as a property of assumptions in the mind, but also as a property of phenomena (stimuli, e. g. utterances) in the environment which lead to the construction of assumptions” (p. 150 – 151). A communicator cannot directly present an audience with an assumption. All a speaker, or a writer, can do is to present a stimulus in the form of a sound, or a written mark. The presentation of this stimulus changes the cognitive environment of the audience, making certain facts manifest, or more manifest. As a result, the audience can mentally represent these facts as strong or stronger assumptions, and even use them to derive further assumptions. The notion of relevance extended in this way becomes:

A phenomenon is relevant to an individual if and only if one or more of the assumptions it makes manifest is relevant to him. (p. 152)

Thus, by presumption of optimal relevance is meant:

- (a) The set of assumptions $\{I\}$ which the communicator intends to make manifest to the addressee is relevant enough to make it worth the addressee's while to process the ostensive stimulus.
- (b) The ostensive stimulus is the most relevant one the communicator could have used to communicate $\{I\}$. (ibid.)^①

That is, every utterance comes with a presumption of the best balance of effort against effect. On the one hand, the effects achievable will never be less than is needed to make it worth processing. On the other hand, the effort required will never be more than is needed to achieve these effects. In comparison to the effects achieved, the effort needed is always the smallest. This amounts to saying “of all the interpretations of the stimulus which confirm the presumption, it is the first interpretation to occur to the addressee that is the one the communicator intended to convey” (p. 168 – 169). For example, the first interpretation of ex. 8 – 13(a) to occur to the hearer will usually be that George has a big domestic cat.

Ex. 8 – 13

- (a) George has a big cat.

① In the second edition, Sperber and Wilson revised the presumption of optimal relevance as follows:

- (a) The ostensive stimulus is relevant enough for it to be worth the addressee's effort to process it.
- (b) The ostensive stimulus is the most relevant one compatible with the communicator's abilities and preferences.

As the word *cat* is ambiguous, it may also refer to other animals of the species *felid* in some situations. That is, (a) may be used to mean (b).

(b) George has a tiger, a lion, a jaguar, etc.

But Sperber and Wilson argue that even if interpretation (b) is correct, thus verifying the first part of the presumption of optimal relevance, i. e. (b) is relevant enough; the second part would invariably be falsified, i. e. (b) will not be the most relevant on account of the increased processing effort involved. In other words, if (b) were the intended interpretation, the speaker should have, instead, used something like (c), or, if he lacked the necessary information, something like (d) or (e):

(c) George has a tiger.

(d) George has a tiger or a lion, I'm not sure which.

(e) George has a felid.

These utterances would have saved the hearer the effort of first accessing and considering interpretation (b), and then having to compare the two. Hence, they assure the hearer that he need not worry. The first interpretation consistent with the principle of relevance is always the best hypothesis. All other interpretations would manifestly falsify the second part of the presumption of relevance.

8.3.2 The Q- and R-principles

This is a less reductionist, bipartite model. These two principles, developed by Laurence Horn, were first proposed in his "Toward a New Taxonomy for Pragmatic Inference: Q-Based and R-Based Implicature" of 1984, and further elaborated in his "Pragmatic Theory" of 1988. The Q-principle is intended to invoke the first maxim of Grice's Quantity, and the R-principle the Relation maxim, but the new principles are more extensive than the Gricean maxims. In his 1984 paper, Horn begins with the principle of least effort by George Kingsley Zipf. In the field of language use, Zipf recognized two competing forces: the force of unification, or speaker's economy, and the force of diversification, or hearer's economy. The first force is a drive toward simplification, which, if unchecked, would result in the use of one word for all the meanings. The second force, on the other hand, is an anti-ambiguity principle, which would lead to a situation where every meaning is expressed by a

different word.^①

Now Horn argues that these two competing forces are largely responsible for generating Grice's conversational maxims and the implicatures derived from them. For example, the first Quantity maxim, concerned with the speaker's need to convey his message fully, is essentially the hearer's economy of Zipf's. So are the Manner maxims of "Avoid obscurity" and "Avoid ambiguity". Most, if not all, of the other maxims respond to the speaker's economy, e. g. the second Quantity maxim, the Relation maxim, and the Brevity maxim. In his view, which is the same as that of Sperber and Wilson's, the second Quantity maxim is especially akin to Relation. He asks "what would make a contribution more informative than required, except the inclusion of material not strictly relevant to and needed for the matter at hand?" (1984: 12). So Horn proposes to reduce all the Grice's maxims^② to two principles as follows:

The Q-principle (Hearer-based):

MAKE YOUR CONTRIBUTION SUFFICIENT (cf. Quantity₁)

SAY AS MUCH AS YOU CAN (given R)

The R-principle (Speaker-based):

MAKE YOUR CONTRIBUTION NECESSARY (cf. Relation, Quantity₂, Manner^③)

SAY NO MORE THAN YOU MUST (given Q) (ibid.: 13)

The hearer-based Q-principle is a sufficiency condition in the sense that information provided is the most the speaker is able to. For example, ex. 8-14 (a) below implicates (b).

Ex. 8-14

- a. Some of my friends are linguists.
- b. Not all of my friends are linguists.

The R-principle, in contrast, encourages the hearer to infer that more is meant. Typical examples are speech acts like ex. 8-15.

Ex. 8-15

① The reality of course is a compromise between the two. One word may express many different meanings, which is called polysemy. And a meaning may be expressed by many different words, which is called synonymy.

② As can be seen from the above, the maxims of Quality are an exception. They are still there in the new theory.

③ As is shown above, not all the Manner maxims are reallocated to the R-principle. The two Manner maxims of "Avoid obscurity" and "Avoid ambiguity" in fact belong to the Q-principle.

Can you pass the salt?

Horn says “if I ask you whether you can pass me the salt, in a context where your abilities to do so are not in doubt, I license you to infer that I am doing something more than asking you whether you can pass the salt—I am in fact asking you to do it. (If I know for a fact that you can pass me the salt, the yes-no question is pointless; the assumption that I am obeying the Relation maxim allows you to infer that I mean something more than what I say.)” (ibid. : 14)

In his 1988 article, Horn describes the Q-principle as “a hearer-based economy for the maximization of informational content, akin to Grice’s (first) maxim of quantity”, and the R-principle as “a speaker-based economy for the minimization of form, akin to Zipf’s (1949) principle of least effort” (p.132). In other words, the Q-principle is concerned with the content. The speaker who follows this principle supplies the sufficient information. The R-principle, on the other hand, is concerned with the form. The speaker who employs this principle uses the minimal form, so that the hearer is entitled to infer that the speaker means more than he says.

To show that the two principles are really valid, Horn surveyed a wide range of linguistic phenomena, both synchronic and diachronic, both lexical and syntactic, both “parole-based” and “langue-based”. Here we shall only introduce his observations on negation as implicature-canceller, and synonym avoidance.

Horn found that Q-based implicatures can be readily cancelled by metalinguistic negation, which does not affect what is said, but R-based implicatures cannot. For example, negation usually means “less than”. So ex. 8-16(a) usually means (b).

Ex. 8-16

- a. He didn’t eat three carrots.
- b. He ate less than three carrots.

Now if we stress “three” as in (c), which is known as metalinguistic negation (meaning “It is not the case that he ate three carrots” rather than “It is the case that he didn’t eat three carrots”), then (b) is cancelled, and we can follow it with (d).

- c. He didn’t eat THREE carrots.
- d. He ate FOUR of them.

Similarly, we can say (e) and (f).

- e. You didn’t eat SOME of the cookies—you ate ALL of them.
- f. It isn’t POSSIBLE she’ll win—it’s CERTAIN she will.

In contrast, ex. 8-17(a) does not mean the same as (b), even though (c) means (d).

Ex. 8-17

- a. I didn't break a finger yesterday.
- b. I broke a finger, but it wasn't one of mine.
- c. I broke a finger yesterday.
- d. I broke a finger of mine yesterday.

The reason is that (d) here is an R-based implicature, while ex. 8-16b is Q-based. But there seems to be exceptions. For example, in ex. 8-18, both (a) and (b) have R-based implicatures like (c) and (d) respectively, but (c) can be cancelled by metalinguistic negation as in (e), though (f) is not acceptable as predicted.

Ex. 8-18

- a. John had a drink.
- b. The secretary smiled.
- c. John had an alcoholic drink.
- d. The female secretary smiled.
- e. John didn't have a drink—that was a Shirley Temple.
- f. *My secretary didn't smile—I have a male secretary.



Horn argues that this exception is more apparent than real. Both speakers' intuition and lexicographers' practice suggest that the implicature associated with *drink*, i. e. "alcoholic drink", has become part of the conventional meaning, while that of *secretary*, i. e. "female secretary" has not. In other words, the interpretation of *drink* in the sense of "alcoholic drink" is no longer an implicature.

The next phenomenon which Horn thinks lends support to his two principles is what I would call synonym avoidance. J. McCawley (1978), on the basis of others, suggested that a relatively productive process is restricted by the existence of a more "lexicalized" alternative. His first example was originally noticed by Householder (1971: 75). That is, there are many terms formed with the adjective *pale* and colour words, such as, *pale green*, *pale blue*, *pale yellow*, but *pale red* sounds odd. This oddity may be attributed to the existence of the word *pink*. Unless one wants to designate a colour which is paler than *red*, but not yet as pale as *pink*, the term *pale red* would not be used. In other words, because of the existence of *pink* the use of *pale red* is limited in a way that *pale blue* and *pale green* are not.

One other example Horn cites from McCawley concerns the causatives as in ex. 8 – 19.

Ex. 8 – 19

- a. Black Bart killed the sheriff.
- b. Black Bart caused the sheriff to die.

Lexical causatives like ex. 8 – 19a tend to be used in the stereotypic causative situation; direct, unmediated causation through physical action, while the use of a productive causative as in (b) tends to indicate an indirect causation. Similarly, the use of the unmarked lexical causative in ex. 8 – 20a implicates that the action was brought about in an unmarked way, perhaps by stepping on the brake pedal, while the choice of the morphologically more complex form as in (b) implicates that some unusual method was used, by pulling the emergency brake, for example:

Ex. 8 – 20

- a. Lee stopped the car.
- b. Lee got the car to stop.

Horn maintains that though there is still room for improvement in McCawley and others' accounts, the insight behind them is real, and "it is essentially a single insight: the unmarked form is used for a stereotypical, unmarked situation (via R-implicature) and the marked counterpart for the situation left over' (via Q-implicature)" (1984: 29).

This insight in fact is a repetition of what he calls a division of pragmatic labour in a previous section. Horn observes that the Q-based and R-based principles often directly collide. "A speaker obeying only Q would tend to say everything she knows on the off-chance that it might prove informative, while a speaker obeying only R would probably, to be on the safe side, not open her mouth. In fact, many of the maxim clashes Grice and others have discussed do involve Quantity_i vs. Relation" (ibid. : 15). But "it is perhaps in the resolution of the conflict between them that they play their major role" (ibid. : 22). And he suggests this resolution comes from a division of pragmatic labour as follows:

The use of a marked (relatively complex and/or prolix) expression when a corresponding unmarked (simpler, less "effortful") alternate expression is available tends to be interpreted as conveying a marked message (one which the unmarked alternative would not or could not have conveyed). (ibid.)

8.3.3 The Q-, I- and M-principles

This tripartite model was suggested by Stephen Levinson mainly in his 1987 paper "Pragmatics and the Grammar of Anaphor: A Partial Pragmatic Reduction of Binding and Control Phenomena". In essence, Levinson says, the Q-, I- and M-principles are Grice's two maxims of Quantity and a maxim of Manner reinterpreted neo-classically. And the maxims of Quality, as is the case in Horn's theory, are kept intact.

Levinson does not agree with the treatment in both Sperber & Wilson's and Horn's accounts to subsume the second maxim of Quantity under a principle of relevance, or relation. In his view, the maxims of Quantity have to do with the quantity of information, while "relevance is a measure of timely helpfulness with respect to interactional goals" (1987: 401), and "is largely about the satisfaction of others' goals in interaction, and the satisfaction of topical and sequencing constraints in discourse, as in the expectation that an answer will follow a question" (1989: 467). It is not, at least not primarily, about information. So he renames the second maxim of Quantity the PRINCIPLE OF INFORMATIVENESS, I-PRINCIPLE for short; and the first maxim of Quantity the PRINCIPLE OF QUANTITY, or Q-PRINCIPLE.

About the M-principle, Levinson mixes the presentation of his own ideas with the criticism of Horn's principles. He accuses Horn of failing to draw a distinction between two kinds of minimization: a semantic minimization and an expression minimization.

The semantic, or content, minimization is equivalent to semantic generality. That is, the more general terms are more minimal in meaning, having more restricted connotation (in contrast to the more extended denotation); and the less general, the more specific, are less minimal, more maximal. For example, *ship* is more general than *ferry*, *flower* than *rose*, *animal* than *tiger*. The choice of the former instead of the latter is a process toward minimization. On the other hand, the expression, or form, minimization is some measure of surface length and complexity. It is concerned with the phonetic and morphological make-up of a term. Thus the normally stressed terms are more minimal than their abnormally stressed counterparts. The shorter terms, those consisting of fewer constituents, are more minimal than longer ones, those consisting of more constituents, provided they are commensurable in meaning, i. e. synonymous, such as *frequent* and *not infrequent*, *to stop a car* and *to cause a car to stop*.

In Levinson's view, only the semantic minimization has to do with the I-

principle. The expression minimization, in contrast, is the domain of the principle of manner, as it concerns the form of a linguistic unit, the way to express something rather than what is expressed, or how much is expressed. He also criticizes Horn's division of pragmatic labour in this regard. He thinks "the contrast involved in the Hornian division of labour is a contrast between marked and unmarked expressions, and more exactly a contrast between usual vs. unusual, or brief vs. prolix expressions. This distinction has nothing to do with quantity of information, the paired expressions being assumed to be synonymous; rather it has to do with surface form, and these implicatures are thus properly attributed to the maxim of Manner" (ibid. : 409).

Recently, Levinson also calls his principles "heuristics". For example, Levinson (2000b: 31 – 34) says there are three "heuristics" as follows:

Heuristic 1

What isn't said, isn't.

Heuristic 2

What is simply described is stereotypically exemplified.

Heuristic 3

What's said in an abnormal way, isn't normal; or Marked message indicates marked situation.

Then he goes on to explain that the first heuristic, which he also calls "Q-Heuristic", "is more or less transparently related to Grice's first Maxim of Quantity" (ibid. : 35). It is responsible for two types of implicatures: scalar implicatures and clausal implicatures, respectively exemplified by ex. 8 – 21 and 8 – 22 below, in which the (a) sentences implicate the (b) sentences.

Ex. 8 – 21

- a. Some of the boys came.
- b. Not all the boys came.

Ex. 8 – 22

- a. If eating eggs is bad for you, you should give up omelets.
- b. Eating eggs may be bad for you, or it may not be bad for you.

In other words, scalar implicatures are the implicatures which involve the Q-principle in Horn's sense. Words like *all* and *some* form a scalar contrast set <all, some>, in which *all* is the more informative, or stronger, term, and *some* the less informative, or weaker, term.

Clausal implicatures, on the other hand, involve the use of different clauses. For example, if a speaker uses ex. 8 – 23 instead of ex. 8 – 22a, then there will be no such an implicature as ex. 8 – 22b.

Ex. 8-23

Since eating eggs is bad for you, you should give up omelets.

So we may say, ex. 8-22a and ex. 8-23 are two clausal alternates, which may be expressed as $\langle (\text{since } p, q), (\text{if } p, q) \rangle$. The clause using *since* is the more informative, or stronger, alternate, and the one using *if* the less informative, or weaker, alternate.

The second heuristic, also known as "I-Heuristic", "may be related directly to Grice's second Maxim of Quantity, The underlying idea is, of course, that one need not say what can be taken for granted" (ibid.: 37). For example, the (a) sentences below implicate the (b) sentences.

Ex. 8-24

- (a) John turned the key and the engine started.
- (b) John turned the key, and then the engine started.
John turned the key, therefore the engine started.
John turned the key in order to start the engine.

Ex. 8-25

- (a) If you mow the lawn, I'll give you \$5.
- (b) If and only if you mow the lawn, I'll give you \$5.

Ex. 8-26

- (a) John unpacked the picnic. The beer was warm.
- (b) The beer was part of the picnic.

Ex. 8-27

- (a) John said "Hello" to the secretary and then he smiled.
- (b) John said "Hello" to the female secretary and then John smiled.

Ex. 8-28

- (a) Harry and Sue bought a piano.
- (b) They bought it together, not one each.

Ex. 8-29

- (a) John came in and he sat down.
- (b) John₁ came in and he₁ sat down.

The third heuristic, also known as "M-Heuristic", "can be related directly to Grice's maxim of Manner ('Be perspicuous'), specifically to his first submaxim 'avoid obscurity of expression' and his third 'avoid prolixity' The underlying idea here is that there is an implicit opposition or parasitic relationship between our second and third heuristics; what is said simply, briefly, in an unmarked way picks up the stereotypical interpretation; if in contrast a marked expression is used, it is suggested that the stereotypical interpretation should be avoided" (ibid.: 38).

Thus, ex. 8 - 30a should be interpreted in the stereotypical way by the I-Heuristic, say the probability is n , then ex. 8 - 30b should be interpreted in the marked way by the M-Heuristic, i. e., the probability is less than n .

Ex. 8 - 30

- a. It's possible that the plane will be late.
- b. It's not impossible that the plane will be late.

In the same way, the use of a longer alternative to a simple causative verb suggests some deviation from the normal situation. ex. 8 - 31a implicates "Bill did it in the stereotypical manner with the foot pedal but ex. 8 - 31b implicates Bill did it indirectly, not in the normal way, e. g., by the use of the emergency brake".

Ex. 8 - 31

- a. Bill stopped the car.
- b. Bill caused the car to stop.

And if the speaker uses a marked expression *the man* instead of an unmarked expression *he*, then *John* and *the man* will not be coreferential.

Ex. 8 - 32

John came in and the man laughed.

However, there are also problems in these heuristics, and there are new attempts to improve on them. On the whole we have to say there is still a long way to go before we find a solution to all the problems we have in the study of language in use.

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Language and Literature

9.1 Introduction

STYLE has been recognized since the days of ancient rhetoric, whereas STYLISTICS is perhaps the creation of bibliographers (Burton, 1990). It is “a branch of linguistics which studies the features of situationally distinctive uses (varieties) of language, and tries to establish principles capable of accounting for the particular choices made by individual and social groups in their use of language.” (Crystal, 1980)

As a newly developed discipline, Carter and Simpson (1989) observed that “if the 1960s was a decade of formalism in stylistics, the 1970s a decade of functionalism and the 1980s a decade of discourse stylistics, then the 1990s could well become the decade in which socio-historical and socio-cultural stylistic studies are a main preoccupation.” In addition to this, Shen (2000) pointed out that there is a trend of “plural-heads development”, i. e. different schools of stylistics compete for development and new schools emerge every now and then. The cognitive approach to literature is a case in point.

9.2 Some General Features of the Literary Language

In this chapter, we will mainly deal with the close relationship between language and literature, that is, LITERARY STYLISTICS. It focuses on the study of linguistic features related to literary style.

What seems to distinguish literary from non-literary usage may be the extent to which the phonological, grammatical and semantic features of the language are salient or foregrounded in some way.

Originally coming from visual arts and in contrast with backgrounding, the concept of FOREGROUNDING, now a popular term in STYLISTICS, was made use of in literary studies by the Russian Formalists, Prague School scholars, and modern stylisticians such as Leech (1969). It is defined as “artistically

motivated deviation" (Leech & Short, 1981). This deviation, or uncommon usage, involves all levels of language: vocabulary, sound, syntax, meaning, graphology, etc. Repetition is also a kind of deviation as it violates the normal rules of usage by over-frequency. Repetitive patterns (of sound or syntax, for example) are superimposed on the background of expectations of normal usage and so strike the readers' attention as unusual. Alliteration, parallelism, and many figures of speech or schemes involving repetition of lexical terms are thus commonly exploited in foregrounding in literary language (Wales, 1989/2000).

9.2.1 Foregrounding and the Grammatical Form

Consider the following examples, both of which describe the inner city decay in U.S.A. The first is from the *Observer* (29 November 1995):

Ex. 9-1

The 1960 dream of high rise living soon turned into a nightmare.

In this sentence, there is nothing grammatically unusual or "deviant" in the way the words of the sentence are put together. However, in the following verse from a poem, the grammatical structure seems to be much more challenging, and makes more demands on our interpretative processing of these lines:

Ex. 9-2

Four storeys have no windows left to smash
But in the fifth a chipped sill buttresses
Mother and daughter the last mistresses
Of that black block condemned to stand, not crash.

The sentence in line 2 of this verse that starts with *But in the fifth* is unusual in that the predicate of the sentence is made up of a sequence of embedded elements, as we can see if we write them out in a full form: "A chipped sill buttresses mother and daughter who are the last mistresses of that black block which is condemned to stand, not crash." Furthermore, the main verb in this sentence is *buttresses*. We would argue that it is more likely to occur as a noun in less literary contexts.

In literary texts, the grammatical system of the language is often exploited, experimented with, or in Mukarovsky's words, made to "deviate from other, more everyday, forms of language, and as a result creates interesting new patterns in form and in meaning". One way that this happens is through the use of non-conventional structures that seem to break the rules of grammar. In the following extract from Angela Carter's novel *Wise Children*, what is the rule that has been broken in the first sentence?

Ex. 9 - 3

The red-haired woman, smiling, waving to the disappearing shore. She left the maharajah; she left innumerable other lights o'passing love in towns and cities and theatres and railway stations all over the world. But Melchior she did not leave.

We all know that English sentences consist of a subject and a predicate, and that the predicate normally contains a phrasal verb. However, the first sentence here contains no main finite verb. It looks as though it should be linked to another clause; therefore it should not stand as an independent unit. Yet here it does stand on its own.

In this extract, Carter also uses a marked syntactic structure in the final sentence: *But Melchior she did not leave*. This structure is rather more marked than the more usual word order for English sentences, which is 'Subject + Verb + Object', often referred to as SVO. By placing the direct object (*Melchior*) before the subject and main verb here (*she did not leave*), Carter produces a structural contrast between this and the previous two clauses which reinforces the contrast in the meaning:

Ex. 9 - 4

She left the maharajah
She left innumerable other lights o'passing love
Melchior she did not leave

9.2.2 Literal Language and Figurative Language

The first meaning for a word that a dictionary definition gives is usually its LITERAL meaning. The literal meaning of the word *tree*, for example, is "a large plant". However, once we start talking about a tree in the context of a *family tree* for example, it is no longer a literal tree we are talking about, but a FIGURATIVE one. The literal use of the word *tree* refers to an organism which has bark, branches and leaves. A *family tree* shares some of these qualities—graphically, a plan of a family and a representation of a tree can look similar, and in a way they are both a process of organic growth, so we use the same term for both. But when we use the term for a plant it is a literal usage and when we use the term to describe our ancestry, it is a figurative usage.

Another word for the figurative use of language is TROPE, which refers to language used in a figurative way for a rhetorical purpose. For example,

Ex. 9 - 5

Friends, Romans and Countrymen, lend me your ears
This is from Mark Antony's speech in Shakespeare's *Julius Caesar*. Here

lend me your ears is a trope, used figuratively for rhetorical ends in order to make more impact than a literal variation such as “listen to me for a moment”. We do not interpret the line literally as a wish to borrow the flesh-and-blood ears of the audience, but as a figurative request for attention. Tropes occur frequently in language use and there are many different forms of tropes. In this chapter, we only have space to give some of them very brief accounts.

Simile A SIMILE is a way of comparing one thing with another, of explaining what one thing is like by showing how it is similar to another thing, and it explicitly signals itself in a text, with the words *as* or *like*. The phrase *as cold as ice* is a common simile; the concept of coldness is explained in terms of an actual concrete object. The word *as* signals that the trope is a simile. For example, the first line of the following stanza by Robert Burns is a simile.

Ex. 9-6

O, my luvie is like a red, red rose,
That's newly sprung in June;
O, my luvie is like the melody
That's sweetly play'd in tune.

To communicate his feelings, the poet invites the reader to perceive in his sweet heart some of the properties of a *rose*, say, beauty, freshness, scentedness, specialness and rarity.

Metaphor The above process of transferring qualities from one thing to another also works in metaphor. There is a formal difference, however, in that the words *like* or *as* do not appear. A METAPHOR, like a simile, also makes a comparison between two unlike elements; but unlike a simile, this comparison is implied rather than stated. Compare the following two examples.

Ex. 9-7

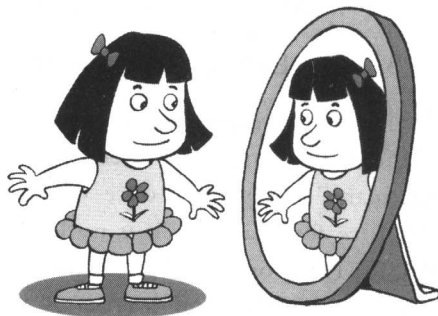
The world is *like a stage*. (simile)

Ex. 9-8

All the world's *a stage*, ... (metaphor)

We can see that because metaphors are not explicitly signaled, they are more difficult to identify, but they are more powerful.

Metonymy METONYMY means *a change of name*. For example, in the following lines by J. Shirley, metonymy is used four times:



Ex. 9 - 9

There is no amour against fate;
Death lays his icy hand on kings;
Sceptre and Crown
Must tumble down
And in the dust be equal made
With the poor crooked Scythe and Spade.

Here *Sceptre* and *Crown* represent kings and queens, and *Scythe* and *Spade* represent ordinary peasants and workers.

Synecdoche A further kind of figurative language is SYNECDOCHE, which is usually classed as a type of metonymy. Synecdoche refers to using the name of part of an object to talk about the whole thing, and vice versa. For example, *hands* in *They were short of hands at harvest time* means workers, labourers or helpers.

On the whole, the figurative use of language has the effect of making the concepts under discussion more domestic and acceptable. Readers can be presented with a picture of the world from which much of the uncertainty, the fuzziness or the ambiguity has been wiped out. And some linguists argue that much of our perception of the world and ourselves is shaped by figurative uses of language.

9.2.3 The Analysis of Literary Language

We can approach literary texts in various ways. Depending on the kind of text we are dealing with and the aim of analysis, some of the following procedures may be of help in analysing the grammatical structure and meaning of the text.

—Where there seems to be foregrounding on the level of lexis, you can use morphological analysis to look at new combinations of words.

—Where there is foregrounding on the level of word order and syntax, you can use your knowledge of word classes (i.e. nouns, verbs, adjectives, etc.) to analyse unusual or “marked” combinations.

—On the grammatical level, you can analyse the structure of sentences or look for combinations and patterns in the use of different types of word groups, nominal and verbal groups which may contribute to a more literary usage of language.

—In all cases, you should find that being aware of the systems of the language, make it possible for you to identify the more “deviant”, “marked” or literary structures, from more “everyday”, non-literary usage of language, and thus be able to say more about the structural patterning in a text.

—If you are not sure where to start on a text, you might try rewriting it. By comparing the differences between the original text and your rewritten version, you should be able to comment on the degree of formality or informality of the original (i. e. its register), and its effect on the reader. Rewriting a text is also a very good way to identify other significant features in the original.

—What structural aspects of the meaning are being exploited, if any? For example, are overlaps in word meaning, or lexical gaps, being explored? Is the text using opposites or oxymorons, or hyponyms and superordinates in a playful or unusual way?

—How significant is the context of the text to your understanding of it? Might readers with different background knowledge from yours form a different interpretation?

—Does the literal meaning of a particular word or phrase apply here? If not, you are dealing with figurative language. Check for similes, metaphors, metonymy and synecdoche. What is the function of the figurative use of language? It might be to make the abstract seem concrete; to make the mysterious or frightening seem safe, ordinary and domestic, or to make the everyday usage seem wonderful and unusual.

9.3 The Language in Poetry

9.3.1 Sound Patterning

Most people are familiar with the idea of RHYME in poetry, indeed for some, this is what defines poetry. END RHYME (i. e. rhyme at the end of lines, cVC) is very common in some poetic styles, and particularly in children's poetry:

Ex. 9-10

Little Bo-peep
Has lost her sheep
And doesn't know where to find them
Leave them alone
And they will come home
Wagging their tails behind them

The following lines from Shakespeare also rhyme:

Ex. 9 – 11

Fair is foul and foul is fair
Hover through wind and murky air
Songs often rhyme as well;

Ex. 9 – 12

Hark! The herald angels sing Glory to the newborn King!

These are all examples of end rhyme, where the last word of a line has the same final sounds as the last word of another line, sometimes immediately above or below, sometimes one or more lines away.

By repeating sounds in words like this, poets can build up very intricate patterns. Those who are interested in the rhyme schemes of English may read further from the bibliography at the end of the chapter, e.g. Thornborrow and Waring (1998/2000) or elsewhere.

9.3.2 Different Forms of Sound Patterning

The following poetical lines from Christopher Marlowe's *The Passionate Shepherd to His Love* can serve to identify several different kinds of sound patterning.

Ex. 9 – 13

	Come live with me and be my love	
	And we will all the pleasures prove	
Rhyme	me-be	love-prove
	/mi:/-/bi:/	/lʌv/-/pruv/

We have discussed rhyme in some detail. The *me-be* rhyme is internal rhyme, rather than end rhyme. The words *love* and *prove* would probably have been pronounced with the same vowel sound by Marlowe, and would have been a rhyme then, although to us they sound like a half-rhyme today, or consonance.

Alliteration	me-my	pleasures-prove
	/mi:/-/maɪ/	/ˈpleʒəz/-/pruv/

The initial consonants are identical in ALLITERATION (Cvc). As you can see, *pleasures* and *prove*, though both start with /p/, have different consonant clusters: /pl/ and /pr/. Therefore they are not completely alliterative.

Assonance	live-with-will	come-love
	/lɪv/-/wɪð/-/wɪl/	/kʌm/-/lʌv/

ASSONANCE describes syllables with a common vowel (cVc).

Consonance	will-all
	/wɪl/-/ɔ:l/

Syllables ending with the same consonants (cvC) are described as having

CONSONANCE.

Reverse rhyme with-will
 /wɪð/-/wɪl/

REVERSE RHYME describes syllables sharing the vowel and initial consonant, CVc, rather than the vowel and the final consonant as is the case in rhyme.

Pararhyme live-love
 /lɪv/-/lʌv/

Where two syllables have the same initial and final consonants, but different vowels(CvC), they PARARHYME.

Repetition Although there are no examples in the lines from "The Passionate Shepherd", it is of course possible to have a complete match of CVC, for example "the sea, the sea". This is called REPETITION.

9.3.3 Stress and Metrical Patterning

In English words of two syllables, one is usually uttered slightly louder, higher, and longer, or otherwise uttered slightly more forcefully than the other syllable in the same word, when the word is said in normal circumstances. This syllable is called the STRESSED syllable. For example, in the word *kitten*, *kit* is the stressed syllable, while *ten* is the UNSTRESSED syllable. In addition to stress within an individual word, when we put words together in utterances we stress some more strongly than others. Where someone puts the stress depends partly on what they think is the most important information in their utterance, and partly on the inherent stresses in the words.

Poetry can exploit the way we use stress when we speak to create rhythms. When stress is organized to form regular rhythms, the term used for it is METRE.

Traditionally, to work out the metre of a poem, first of all you need to work out the number of syllables in each line, as in this example from the play *Romeo and Juliet* by Shakespeare:

Ex. 9-14

For **saints** have **hands** that **pilgrims'** **hands** do **touch**

There are ten syllables in this line and the bold ones are the stressed



syllables. (The stressed syllables may be different according to different understandings of the line.) A ten-syllable line like this, which has stress on alternate syllables and starts with an unstressed syllable, is a very specific and popular form in English poetry known as IAMBIC PENTAMETRE. Iambic refers to the pattern of an unstressed syllable followed by a stressed one.

An iamb is an example of a unit of metre. Units of metre are called FEET. The term PENTAMETRE refers to the number of feet in the line. The line from *Romeo and Juliet* is in pentametre because it contains five feet. The names of the different types of feet most frequently found in English poetry are as follows:

Iamb An IAMBIC foot contains two syllables, an unstressed syllable followed by a stressed one.

Ex. 9 - 15

and **palm** to **palm** is **holy palmer's kiss**

Trochee A TROCHAIC foot contains two syllables as well, but in this case, the stressed syllable comes first, followed by an unstressed syllable:

Ex. 9 - 16

Willows whiten, **aspens quiver**

Anapest An ANAPESTIC foot consists of three syllables; two unstressed syllables are followed by a stressed one:

Ex. 9 - 17

Without **cause** be he **pleased**, without **cause** be he **cross**

Dactyl A DACTYLIC foot is similar to an anapest, except reversed—a stressed syllable is followed by two unstressed ones:

Ex. 9 - 18

One for the **master**, and **one** for the **dame**

Spondee A SPONDAIC foot consists of two stressed syllables; lines of poetry rarely consist only of spondees:

Ex. 9 - 19

and a **black-/Back gull bent** like an **iron bar slowly**.

Pyrrhic A PYRRHIC foot consists of two unstressed syllables, as *like an* in ex. 9 - 19.

Similar to pentameter, lines that contain two feet (of any kind) are described as DIMETRE, those with three feet as TRIMETRE, those with four feet as TETRAMETRE, those with six feet as HEXAMETRE, with seven as HEPTAMETRE, and with eight are OCTAMETRE (the first part of each term relates to the Greek word for the appropriate number).

9.3.4 Conventional Forms of Metre and Sound

At different times, different patterns of metre and sound have developed and become accepted as ways of structuring poems. These conventional structures often have names, and if you are analyzing poems, it is advisable to be familiar with the more frequent conventions that poets use. Some conventional forms of metre and sound are as follows.

Couplets COUPLETS are two lines of verse, usually connected by a rhyme. Here is an extract from *The Mad Mother* by Wordsworth:

Ex. 9 - 20

Her eyes are wild, her head is bare,
The sun has burnt her coal-black hair,
Her eyebrows have a rusty stain,
And she came from far over the main.

Quatrains Stanzas of four lines, quite common in English poetry. Oliver Goldsmith's *When Lovely Woman Stoops to Folly* written in 1766, is in quatrains.

Ex. 9 - 21

When lovely woman stoops to folly,
And finds too late that men betray,
What charm can soothe her melancholy,
What art can wash her guilt away?
The only art her guilt to cover,
To hide her shame from every eye,
To give repentance to her lover,
And wring his bosom—is to die.

Blank verse BLANK VERSE consists of lines in iambic pentametre which do not rhyme. These are very common in English literature. Ex. 9 - 22 is from Robert Browning's poem *Andrea del Sarto* (1855):

Ex. 9 - 22

But do not let us quarrel any more,
No my Lucrezia; bear with me for once;
Sit down and all shall happen as you wish.
You turn your face, but does it bring your heart?

Many other verse forms appear quite regularly in English poetry, e. g. **sonnet**, **free verse**, **limericks**, and so on. A very good summary is given by Jon Stallworthy in an essay on versification in *The Norton Anthology of Poetry*.

9.3.5 The Poetic Functions of Sound and Metre

Why do poets use sound and metrical patterning? Some of the reasons given by Thornborrow and Wareing (1998) can give us an idea of the range of effects sound and metre can have. Reasons for poets using sound and metrical patterning include:

(1) For aesthetic pleasure—sound and metrical patterning are fundamentally pleasing, in the way that music is; most people enjoy rhythms and repeated sounds. Children in particular seem to like verse for this reason.

(2) To conform to a convention/style/poetical form—as with clothes and buildings, poetry has fashions, and different forms of sound patterning have been popular at different times. The time at which they were writing has a great influence on why poets selected the forms they did.

(3) To express or innovate with a form—poets innovate to create new poetic forms, and also to challenge assumptions about the forms of language which are considered appropriate to poetry.

(4) To demonstrate technical skill, and for intellectual pleasure—there is a kind of satisfaction to be derived from the cleverness of some poems and magic of form and meaning being perfectly combined. Poets show their skill with words in the same way as athletes demonstrate their ability to run, to jump, or to leap.

(5) For emphasis or contrast—some metrical pattern, such as the “slow spondees”, or sudden changes in a previously regular pattern, draw your attention to that place in the poem.

(6) Onomatopoeia—when the rhythm of a line or its sound imitates the sound of what is being described, this is known as ONOMATOPOEIA.

9.3.6 How to Analyse Poetry?

The following checklist provided by Thornborrow and Wareing (1998) may help to cover the areas of discussion when analyzing poetry.

(1) Information about the poem: If this information is available to you, somewhere in your analysis give the title of the poem, the name of the poet, the period in which the poem was written, the genre to which the poem belongs, e. g. lyric, dramatic, epic sonnet, or satire, etc. You might also mention the topic, e. g. whether it is a love poem, a war poem or a nature poem.

(2) The way the poem is structured: These are structural features that you should check for; there may well be others we have omitted. Don't worry if you don't find any examples of reverse rhyme, or a regular metrical pattern in

your poem. What matters is that you looked, so if they had been there, you wouldn't have missed them.

You don't need to write about all the headings below. Working through them is the process of getting to know the poem. After that you can select which are the interesting features you want to discuss.

—Layout—are the lines grouped into stanzas of equal/unequal lengths?^①

—Number of lines.

—Length of lines—count the syllables; are lines of regular syllabic length?

—Regular metre—which syllables carry stress? Are there an equal number of unstressed syllables between the stressed ones? How many feet (stressed syllables) are there in a line? Comment on the type of foot and the number of feet per line—or say that there is no regular metrical pattern.

Finding no regular metre is not to say that there is no exploitation of metre



① The layout of a poem is particularly significant in the interpretation of visual poetry. The following two examples may provide some impressions of this feature.

Ex. 9-23

seeker of truth
follow no path
all paths lead where

truth is here

(e. e. cummings, No. 3 of 73 *Poems*)

Ex. 9-24

Lord, who createdst man in wealth and store,
Though foolishly he lost the same,
Decaying more and more,
Till he became
Most poore;
With thee
O let me rise
As larks, harmoniously,
And sing this day thy victories;
Then shall the fall further the flight in me

(George Herbert, *Easter Wings*)

however. A poem can be written in free verse and can occasionally use particular metrical patterns for emphasis, or onomatopoeic effect.

—End rhymes—plot the end rhyme, if there is any. You could check with a reference source such as the essay by Jon Stallworthy at the end of the *Norton Anthology*, to see if the metre and end rhyme conform to a particular style of poem (e.g. a ballad or a sonnet).

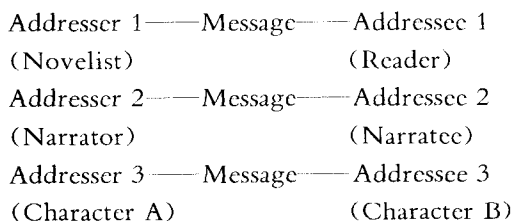
—Other forms of sound patterning—assonance, consonance, alliteration, pararhyme, reverse rhyme, half rhyme, and repetition.

You may comment on the effect of these forms, using the list of reasons suggested above for reference. You should also check for literal and figurative uses of language, interesting uses of syntax, punctuation and register, and for intertextual allusion.

9.4 The Language in Fiction

9.4.1 Fictional Prose and Point of View

According to Mick Short (1996), we need at least three levels of discourse to account for the language of fictional prose (i.e. a novel or short story), because there is a narrator-narratee level intervening between the character-character level and the author-reader level:



This diagram only accounts for the novel “in general” in the sense that all three levels, and all three pairs of participants are needed to explain how the novel works as a form. But any particular novel may neutralise some of the distinctions, multiply others, or do both at the same time. The fact that there are six participants in the basic discourse structure for the novel automatically means that there are more viewpoints to be taken into account in the novel than in other genres (e.g. poetry). But the opportunities in particular novels for multiplying the number of viewpoints to be considered, and related to one another, are myriad. It is thus hardly surprising that the novel has become the genre where writers have explored viewpoints extensively.

I-narrators The person who tells the story may also be a character in the fictional world of the story, relating the story after the event. In this case the critics call the narrator a **FIRST-PERSON NARRATOR** or **I-NARRATOR** because when the narrator refers to himself or herself in the story the first person pronoun *I* is used. First-person narrators are often said to be “limited” because they don’t know all the facts or “unreliable” because they trick the reader by withholding information or telling untruths. This often happens in murder and mystery stories.

Third-person narrators If the narrator is not a character in the fictional world, he or she is usually called a **THIRD-PERSON NARRATOR**, because reference to all the characters in the fictional world of the story will involve the use of the third-person pronouns, *he*, *she*, *it* or *they*. This second main type of narrator is arguably the dominant narrator type.

Schema-oriented language Viewpoint is schema-oriented. It is worth noting that different participants in the same situation will have different **SCHEMAS**, related to their different viewpoints. Hence shopkeepers and their customers will have shop schemas which in many respects will be mirror images of one another, and the success of shop-keepers will depend in part on their being able to take into account the schemas and points of view of their customers.

Besides indicating viewpoint by choosing what to describe, novelists can also indicate it by how it is described, particularly through expressions which are evaluative in nature:

Ex. 9 – 25

She opened the door of her grimy, branch-line carriage, and began to get down her bags. The porter was nowhere, of course, but there was Harry... There, on the sordid little station under the furnaces...

In this passage from D. H. Lawrence’s *Fanny and Annie*, the value-laden adjectives *grimy* and *sordid* in *grimy, branch-line carriage* and *sordid little station under the furnaces* help mark the description of Morley railway station as being from the viewpoint of Fanny, who clearly disapproves.

Given vs New information At the beginning of a story, we should thus be able to predict that narrative reference to everything in the fiction except items generally assumed by everyone in our culture (e.g. the sun) must be new, and hence should display indefinite reference. This is what happens, for example, at the beginning of Thomas Hardy’s *The Mayor of Casterbridge*:

Ex. 9 – 26

One evening of late summer, before the nineteenth century had reached one third of its span, a young man and woman, the latter carrying a child,

were approaching the large village of Weydon-Priors, in Upper Wessex, on foot.

The first mention of the man (and by implication the woman) and that of the child have indefinite reference (a young man and woman, a child) because we have not met them before. As a consequence, we tend to get a distanced “bird’s-eye view” of the characters. The nineteenth century has definite reference because Hardy can assume that his readers will already know what the phrase refers to. But note that even in this straightforward description, the village of Weydon-Piors gets definite reference for its first mention, encouraging us to pretend to ourselves that we are already familiar with it. Hardy is thus “positioning” his readers as people who are familiar to some extent with the village (and hence the area) but not the characters.

Deixis Because DEIXIS is speaker-related it can easily be used to indicate particular, and changing, viewpoint. In the following example from *The Secret Agent*, we see Mrs. Verloc’s actions from Mr. Verloc’s viewpoint:

Ex. 9 – 27

Mr. Verloc heard the creaky plank in the floor and was content. He waited.

Mrs. Verloc was coming.

In addition to the perception and cognition verbs *heard* and *waited* and the indication of his inner mental state (*was content*) we can see that Mrs. Verloc’s movement towards her husband is viewed from Mr. Verloc’s position (*coming*). The fact that the events are only seen from Mr. Verloc’s viewpoint is strategically important at this point in the novel. He does not realise that his wife is about to kill him.

9.4.2 Speech and Thought Presentation

(1) Speech presentation

According to Short (1996), the speech presentation continuum may have the following possibilities:

- 1) Direct Speech (DS)
- 2) Indirect Speech (IS)
- 3) Narrator’s Representation of Speech Acts (NRSA)
- 4) Narrator’s Representation of Speech (NRS).

Moreover, with the DIRECT SPEECH (DS) we have what the character said in its fullest form, and as we move from 1) to 4) the speech contribution of the character becomes more and more muted.

There is, one further category which can occur, which is an amalgam of DS

and INDIRECT SPEECH (IS) features and is called FREE INDIRECT SPEECH (FIS). It comes between DS and IS on the speech presentation cline:

NRS NRSA IS FIS DS

The following example from Charles Dickens's *The Old Curiosity Shop* can be used to illustrate most types of speech representations.

Ex. 9 - 28

(1) He thanked her many times, and said that the old dame who usually did such offices for him had gone to nurse the little scholar whom he had told her of. (2) The child asked how he was, and hoped he was better. (3) "No," rejoined the schoolmaster, shaking his head sorrowfully, "No better. (4) They even say he is worse."

The schoolmaster's words in quotation marks serve as an example of DS. Typical IS can be seen in sentence (2): *The child asked how he was...* It gives us the propositional content of what the child said, but not the words she used to utter the content. But in *He thanked her many times...* at the beginning of (1) we do not even know what statements the schoolmaster made, let alone what words he uttered to make those statements. All we know is that he repeatedly used the speech act of thanking. As a consequence, this part of the passage can be seen as a summary of a longer piece of discourse, and is therefore even more backgrounded than an IS representation would be. Mick Short called this minimalist kind of presentation the NRSA. Another possibility of speech presentation which is more minimalist than NRSA, namely a sentence which merely tells us that speech occurred, and which does not even specify the speech act(s) involved, e.g. *We talked for hours*. This is called NRS.

The FIS usually occurs in a form which appears at first sight to be IS but also has DS features. The clearest example of FIS in this passage is the second half of sentence (2): *... and hoped he was better*. (The first half of the sentence *The child asked how he was...* is clearly IS, giving the propositional content of the utterance but not the words used.) Although it is certainly not DS, it does have some of the flavour of the words which the child used. The reason for this is that although it is coordinated to the IS of the first part of the sentence (which leads us to expect it will have the same status), it omits the reporting clause, which can be easily deduced from the context. A more explicit version of it would be *... and said that she hoped he was better*.

Thought presentation The categories used by novelists to represent the thoughts of their characters are exactly the same as those used to represent a speech.

Ex. 9 – 29

- a. He spent the day thinking. (Narrator's Representation of Thought; NRT)
- b. She considered his unpunctuality. (Narrator's Representation of Thought Acts; NRTA)
- c. She thought that he would be late. (Indirect Thought; IT)
- d. He was bound to be late! (Free Indirect Thought; FIT)
- e. "He will be late", she thought. (Direct Thought; DT)

As the effects associated with NRT, NRTA or IT are roughly the same as those associated with speech presentation, we only talk about two types of thought representation here, i.e. DT and FIT.

Direct thought DT tends to be used for presenting conscious, deliberative thought. In the following example from Dickens' *The Old Curiosity Shop*, Dick Swiveller, who has been dangerously ill for some weeks, has just regained consciousness:

Ex. 9 – 30

"I'm dreaming," thought Richard, "that's clear. When I went to bed, my hands were not made of egg shells; and now I can almost see through'em. If this is not a dream, I have woke up by mistake in an Arabian Night, instead of a London one. But I have no doubt I'm asleep. Not the least."

Here the small servant had another cough.

"Very remarkable!" thought Mr. Swiveller. "I never dreamt such a real cough as that before. I don't know, indeed, that I ever dreamt either a cough or a sneeze. Perhaps it's part of the philosophy of dreams that one never does. There's another—and another—I say, —I'm dreaming rather fast!"

The humour of the account comes from the fact that Mr. Swiveller thinks that he is dreaming but we know that he is thinking rather deliberately as he comes out of his coma. His rather fast dreaming is merely everyday reality impinging on his consciousness, as the intervening sentence of narration makes clear.

DT has the same linguistic form as the soliloquy in drama, which is notoriously ambiguous as to whether the character involved is thinking aloud or talking to the audience. In the novel there is no audience to talk to, and so thought presentation must be the sole purpose of DT. However, DT is quite often used to represent imaginary conversations which characters have with themselves or others, which is presumably why it so often has the flavour of

conscious thinking.

Free indirect thought In the following brief example of FIT from Julian Barnes' *A History of the World in 10½ Chapters*, Colonel Fergusson is lying on his deathbed, annoyed with his daughter, who is reading a religious pamphlet while waiting for him to die. The Colonel, an atheist, is annoyed because he cannot comprehend his daughter's belief in God:

Ex. 9-31

It was a provocation, that's what it was, thought the Colonel. Here he was on his deathbed, preparing for oblivion, and she sits over there reading Parson Noah's latest pamphlet.

The reported clauses in the first sentence and the first half of the second sentence are in FIT. They contain a mixture of Direct and Indirect features, as we can show by "translating" them first into IT and then into DT:

1) The Colonel thought that it was a provocation that while he was on his deathbed, preparing for oblivion, she was reading Parson Noah's latest pamphlet. (IT)

2) "It is a provocation, that's what it is," thought the Colonel. "I'm on my deathbed, preparing for oblivion and she sits over there reading Parson Noah's latest pamphlet." (DT)

In this example we can see the typical effect of FIT. We feel close to the character, almost inside his head as he thinks, and sympathise with his viewpoint. This "close" effect is more or less the opposite of the effect of FIS, which makes us feel distanced from the character and is often a vehicle for irony.

How is it that FIS and FIT have such markedly different effects? One reason is that although DS can reasonably be assumed to be the norm for speech presentation, it is much more difficult to hold the same view for DT. The thoughts of others, unlike their speech, are never directly accessible to us. We can only infer what people might be thinking from their speech, action, facial expression and so on. It is thus much more plausible to think of IT as our norm for thought presentation. In this case, the use of FIT constitutes a move away from the norm towards the character end of the scale, whereas FIS constitutes a move in the opposite direction.

Stream of consciousness writing The term STREAM OF CONSCIOUSNESS was originally coined by the philosopher William James in his *Principle of Psychology* (1890) to describe the free association of ideas and impressions in the mind. It was later applied to the writing of William Faulkner, James Joyce, Virginia Woolf and others experimenting early in the 20th century with the novelistic portrayal of the free flow of thought. Note, however, that the

majority of thought presentation in novels is not stream of consciousness writing. The examples we have discussed above are not stream of consciousness writing because they are too orderly to constitute the free association of ideas. Perhaps the most famous piece of stream of consciousness writing is that associated with Leopold Bloom in Joyce's *Ulysses*. Here Bloom is in a restaurant thinking about oysters:

Ex. 9 – 32

Filthy shells. Devil to open them too. Who found them out? Garbage, sewage they feed on. Fizz and Red bank oysters. Effect on the sexual. Aphrodis. (sic) He was in the Red bank this morning. Was he oyster old fish at table. Perhaps he young flesh in bed. No. June has no ar (sic) no oysters. But there are people like tainted game. Jugged hare. First catch your hare. Chinese eating eggs fifty years old, blue and green again. Dinner of thirty courses. Each dish harmless might mix inside. Idea for a poison mystery.

This cognitive meandering is all in the most free version of DT. It is also characterised by a highly elliptical sentence structure, with as many grammatical words as possible being removed consistently allowing the reader to be able to infer what is going on. The language is not very cohesive, and breaks the Gricean maxims of Quantity and Manner. But we must assume that apparently unreasonable writing behaviour is related to a relevant authorial purpose. It is the assumption that Joyce is really cooperating with us at a deeper level, even though he is apparently making our reading difficult, that leads us to conclude that he is trying to evoke a mind working associatively.

9.4.3 Prose Style

Authorial style When people talk of style, they usually mean AUTHORIAL STYLE. This refers to the “world view” kind of authorial style. In other words, it is a way of writing which recognisably belongs to a particular writer, say, Jane Austen or Ernest Hemingway. This way of writing distinguishes one author's writing from that of others, and is felt to be recognisable across a range of texts written by the same writer, even though those writings are bound to vary as a consequence of being about different topics, describing different things, having different purposes and so on. It is this ability to perceive authorial style in the writings of a particular author that enables us to write pastiches and parodies.

Text style TEXT STYLE looks closely at how linguistic choices help to construct textual meaning. Just as authors can be said to have style, so can text.

Critics can talk of the style of *Middlemarch*, or even parts of it, as well as the style of George Eliot. When the style of texts or extract from texts is examined, we are even more centrally concerned with meaning than with the world view version of authorial style discussed above, and so when we examine text style we will need to examine linguistic choices which are intrinsically connected with meaning and effect on the reader. All of the areas we have looked at so far in this book could be relevant to the meaning of a particular text and its style; as can areas like lexical and grammatical patterning. Even the positioning of something as apparently insignificant as a comma, for example, can sometimes be very important in interpretative terms.

9.4.4 How to Analyse the Language of Fiction?

The language features we should examine to elucidate the style of a text or a corpus of an author's writing may include the following aspects:—patterns of lexis(vocabulary);

- patterns of grammatical organization;
- patterns of textual organization(how the units of textual organization, from sentences to paragraphs and beyond, are arranged);
- foregrounded features, including figures of speech;
- whether any patterns of style variation can be discerned;
- discoursal patterning of various kinds, like turn-taking or patterns of inferencing;
- patterns of viewpoint manipulation, including speech and thought presentation.

9.5 The Language in Drama

A play exists in two ways—on the page, and on the stage. This presents something of a dilemma for the literary critic, since the two manifestations are quite different and need different analytical approaches. When stylistics has focused on drama, it has almost invariably been concerned with the text on the page, rather than the performance on the stage. The text, after all, is static and unchanging. The stylistician may easily turn back the pages to a previous scene, and make comparison between speeches in different parts of the play, or even reach for another book, and make comparisons between different plays. The live performance of a play, on the other hand, is transient. A speech only partially heard through inattention cannot be heard again on that occasion. However, this

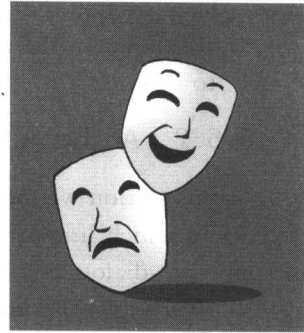
is not to say that performances can never be analysed, particularly now we have access to recorded performances. Our interest in this book, nevertheless, is in the language of the play on the page.

9.5.1 How Should We Analyse Drama?

Drama as poetry Stylistic analysis of dramatic texts has tended to follow one of the three approaches. The first of these is to treat an extract of the text as a poem—as we have already done in Section 9.3. Since sound and metre are as relevant in many dramatic texts as they are in poetry, everything to do with metre, sound patterning, syntax and figurative language already discussed in the previous sections might be appropriate areas to analyse.

Drama as fiction Secondly, the play can be analysed for character and plot, treating it more or less like fiction. The two components of plot and character clearly are as significant in dramatic texts as in fiction, so this is an obviously relevant way to proceed; some of the approaches described in the previous section can be used to do this.

Drama however differs fundamentally from fiction in that it usually lacks a narrative voice, and this absence can make a novel difficult to dramatize successfully. One of the recognized problems in dramatizing Jane Austen's *Pride and Prejudice*, as was done by BBC in 1995, is that the ironic narrative voice offers a different perspective on characters and events from the one the characters in the novel necessarily perceive or comment on. Thus the information and the attitude conveyed in the narrative voice must be translated into other aspects of the dramatization.



There are ways, in drama, of attempting to deal with the function of the narrative voice. A chorus, as was used in Greek Tragedy, has also been used in plays by T. S. Eliot (*The Cocktail Party*, for example), and can give another perspective on the actions of the characters or plot development. Dylan Thomas used a narrative voice reading over the play in *Under Milkwood*, and Dennis Potter, in the television play *The Singing Detective*, uses a voice-over technique. Information about the plot and characters is sometimes given through explicit interjections by the playwright in the text of the play, as stage instructions.

Drama as conversation We have said that stylistics has approached the texts of plays as if they were poetry, and as if they were a kind of fiction. This does not really account for aspects of drama that are different from poetry and

different from fiction, the qualities that make it a genre in its own right. One crucial aspect in which drama differs from poetry and fiction is in its emphasis on verbal interaction, and the way relationships between people are constructed and negotiated through what they say. This is where linguistics really comes into its own, since there is an enormous amount of work on what people do when they talk, and on how communication and miscommunication occur. Linguistics, and techniques of discourse analysis in particular, can help us analyse the exchanges between characters, in order to:

- a) understand the text better;
- b) understand how conversation works;
- c) appreciate better the skill a playwright has demonstrated in the way they have written the speeches of their characters;
- d) see things in the text that other forms of analysis might have allowed us to miss.

9.5.2 Analysing Dramatic Language

In this section we look at the speech in dramatic texts and show how analytic techniques which linguists have applied to naturally occurring conversations can be applied to dialogues in plays to explore the interaction between characters.

(1) **Turn quantity and length** How much a character talks can be indicative either of their relative importance in the play, or of how important they appear to think they are. Generally, central characters have longer and more speeches than minor characters. However, Bennison (1993: 82 - 4) argues that as Anderson in Tom Stoppard's play *Professional Foul*, develops as a main character, he has fewer long speeches—indicative of his increased ability to listen to others.

(2) **Exchange sequence** Attempts have been made to catalogue many of the patterns of exchanges which are considered appropriate by speakers of English, (e. g. the two-part exchanges such as greeting-greeting, question-answer, request-response and invitation-acceptance/refusal), but as there is so much scope for variation in context this is really a fruitless task. However, the model of exchange structure can be useful when analysing a dramatic dialogue which doesn't seem to conform to the expected pattern of exchange. Harold Pinter's plays for example, are famous for the very strange dialogues between characters, where these expected patterns do not occur. The extract below is from *A Night Out*. The characters, Albert and a Girl, are in the Girl's flat, where she has brought him back with her after picking him up on the street.

Ex. 9 - 33

(His hand screws the cigarette. He lets it fall on the carpet.)

GIRL (outraged): What do you think you're doing? (She stares at him.) Pick it up! Pick that up, I tell you! It's my carpet! (She lunged towards it.) It's not my carpet, they'll make me pay— (His hand closes upon hers as she reaches for it.)

GIRL: What are you doing? Let go. Treating my place like a pigsty. . .
Let me go. You're burning my carpet!

ALBERT (quietly, intensely): Sit down.

GIRL: How dare you?

ALBERT: Shut up. Sit down.

GIRL: What are you doing?

ALBERT: Don't scream. I'm warning you. . . .

GIRL: What are you going to do?

ALBERT: (seizing the clock from the mantelpiece): DON'T MUCK ME ABOUT!

This dialogue does not "fit" our model of exchange structure in several respects. First, Albert does not respond to the girl's exclamations about the dropped cigarette, and her commands to pick it up. Second, she asks him a series of questions (*How dare you?*, *What are you doing?*, and *What are you going to do?*), none of which he gives a direct answer to. Ignoring her questions and commands is one way he demonstrates the unequal distribution of power between them, which culminates in his threat of physical violence.

(3) **Production errors** Sometimes a writer will deliberately use forms such as hesitation to convey something about the character—that they are distracted, for example, or uncertain or shy, or confused, or embarrassed. In this example from *Professional Foul*, the character Anderson meets one of his footballing heroes and offers advice on the opposition in a forthcoming match, a situation in which he demonstrates signs of embarrassment, shown in bold:

Ex. 9 – 34

ANDERSON: I've seen him twice. In the UFA Cup a few seasons ago. . . I happened to be in Berlin for the Heel Colloquium, **er**, bunfight. . . (**in a rush**) I realize it's none of my business—I **mean** you may think I'm an absolute ass, **but-**(**pause**) Look, if Hahas takes that corner he's going to make it short—**almost certainly-**. . .

(4) **The cooperative principle** The philosopher Grice (1975) developed the theory of a cooperative principle and some maxims, which he asserted people used to make sense of their conversations by enabling them to distinguish between SENTENCE MEANING and UTTERANCE MEANING (cf. chapter 8). In the meantime, Grice suggested that people actually break these maxims

quite often when they talk. For example, in another extract from Pinter's *A Night Out*, Albert apparently flouts the maxim of relevance when he responds to the Girl's questions:

Ex. 9 - 35

GIRL: And what film are you making at the moment?

ALBERT: I'm on holiday.

GIRL: Where do you work?

ALBERT: I'm freelance.

Albert's replies do not directly answer the Girl's questions — he does not tell her what film he is working on nor where he works. However, most people would probably make sense of this exchange by assuming that the answers were relevant to the questions at an underlying level. This would result in the response *I'm on holiday* being understood to mean "I'm not making a film at the moment because I'm on holiday", and the response to the second question meaning "I don't have one single place I can identify, because being a freelancer, I work all over the place."

(5) **Status marked through language** Many of the properties of language discussed above can be used to signal the relative status, and changes in status, of characters. In particular, language can be used to signal to what extent the relationship between an addresser and an addressee is based on a social power difference, and to what extent it is based on solidarity. How people address one another usually signals where they perceive themselves to be socially in relation to their addressee: their equal, or their social inferior or superior. A considerable amount of our language use is grounded in these perceptions.

Playwrights can indicate to an audience this kind of information about the relationship between characters through ways they address one another on stage. For example, the so-called *tu/vous* distinction which existed in Elizabethan English, and which still exists in many languages, but which has been lost in modern English, is often used by Shakespeare to indicate relationships between characters. The form *thou* in Early Modern English, the second person singular pronoun (i.e. for addressing one person) equivalent to the French form *tu*, was used to signal either intimacy or that the speaker was of higher social status than the addressee. The form *you* in Early Modern English was equivalent to the Modern French form *vous*; it was used for the second person plural (i.e. for addressing two or more people), but was also used for the second person singular as a polite form used to mark social distance or coldness and/or respect. The *thou* form was already beginning to die out when Shakespeare was writing, but nevertheless, there are scenes in his plays where the characters switch between the

use of *you* and *thou*, indicating the fluctuation in their relationships, from intimacy to distance, from respect to contempt. For example, in the extract below from Shakespeare's play *As You Like It*, analysed by Calvo (1994), the cousins Celia and Rosalind differ in their use of pronouns to one another. Celia, who has been irritated by the remarks of Rosalind, madly in love with Orlando, has made about women, and by her general self-absorption, uses the distant and polite form *you*. Rosalind, completely wrapped up in her own emotions, apparently oblivious to Celia's annoyance and to the fact that Celia may feel rejected by Rosalind's obsession with Orlando, uses the intimate *thou* form in response.

Ex. 9 – 36

Celia: You have simply misused our sex with your love-prate. We must have your doublet and hose plucked over your head, and show the world what the bird hath done to her own nest.

Rosalind: O coz, coz, coz, my pretty little coz, that thou didst know how many fathoms deep I am in love! But it cannot be sounded. My affection hath an unknown bottom, like the Bay of Portugal.

Celia: Or rather bottomless, that as fast as you pour affection in, it runs out.

Rosalind: No. That same wicked bastard of Venus, that was begot of thought, conceived of spleen and born of madness, that blind rascally boy that abuses every one's eyes because his own are out, let him be judge how deep I am in love. I'll tell the Aliena, I cannot be out of sight of Orlando. I'll go find a shadow and sigh till he comes.

Celia: And I'll sleep.

Without knowledge of the *tu* / *vous* distinction and what it can signal about social and personal relationships, we would lose some of the significance of this scene.

(6) **Register** REGISTER is the term used in linguistics to describe the relationship between a particular style of language and its context of use. As language users, we can recognize a wide range of styles even though we might not be able to actively produce them. An example of a linguistic register is legal discourse—we recognize a legal document when we see one, but lawyers are generally the only people who are trained to produce them using appropriate linguistic choices. In Shakespeare's *A Midsummer Night's Dream*, social order, and the importance of acting appropriately for your station in life are very important themes. Characters in the play include fairies, nobility and ordinary working people, and the different social status of each group is marked through their different style of language.

(7) **Speech and silence** Concerning female characters in plays, there is evidence that men tend to talk more than women in mixed sex conversations (Spender, 1990). It is suggested that the reason why it is accepted that women are the talkative sex is that the amount they talk is not compared with the amount that men talk, but with silence. In fact silence is the preferred state for women in a patriarchal society. There is certainly some support for this hypothesis at least in the British dramatic heritage; some of Shakespeare's characters notably regard silence in women as a virtue. In *The Taming of the Shrew*, for example, as Katherina, the "shrew" of the title, is reviled for being outspoken, her sister Bianca is praised for her silence:

Ex. 9-37

Tranio: That wench is stark mad or wonderful forward.

Lucentio: But in the other's silence do I see

Maid's mild behaviour and sobriety.

9.5.3 How to Analyse Dramatic Texts?

Walter Nash (1989) suggests that dramatic texts can be analysed in a series of stages, starting with the most basic and least controversial, and working up to the most sophisticated and debatable. If you are required to analyse a dramatic text, you may find it useful to refer to these guidelines. The stages he outlines are as follows:

- Paraphrase the text—i. e. put it into your own words
- Write a commentary on the text
- Select a theoretical approach, perhaps from those discussed above

9.6 The Cognitive Approach to Literature

9.6.1 Theoretical Background

With the development of cognitive science, cognitive linguistics came into being in the 1970s and some of the cognitive tools have been applied to the analysis of literature since the 1980s. The cognitive approach focuses on the cognitive structure and process of the linguistic choices in literature.

Michael Burke's analysis of Philip Larkin's poem, *Going*, can serve as a very good example. In his analysis, three cognitive tools are used: **Figure and Ground**, **Image Schemata**, and **Cognitive Metaphor**. The remaining part of this chapter will summarize Michael Burke's cognitive approach to this poem.

Explanations of the three cognitive tools come first (Burke 2005).

In the **Figure and Ground** relationship, the prominence of the “figure” is important. It is like a **Foregrounded** feature. A figure can be a character, location, or thing and is often new or in motion and is thus prominent (Stockwell, 2002: 15). The foregrounded literary elements, i. e. the figures, are also known as attention or attractors in cognitive linguistics, while their opposite, i. e. the ground, is known as neglect (Burke, 2005).

Image Schemata can be loosely described as being the recurring patterns of our everyday perceptual interactions and bodily experiences. For example, whenever we stand up from a chair or sit down on it, or go into or out of a room we experience the image-schematic distinction between *up and down* and *in and out* respectively. Other image-schematic patterns are *source-path-goal*, *balance*, *center-periphery*, etc. We use these image-schematic patterns in order to make meaning of the world when new situations arise (Burke, 2005).

Cognitive Metaphor works by mapping specific characteristics of a source domain onto a target domain. There are three main types; 1) structural cognitive metaphor, e. g. *Life is a journey*; 2) ontological cognitive metaphor, e. g. *The mind is an ocean*; and 3) orientational cognitive metaphor, e. g. *Don't feel down*, *He is on a high today*.

9.6.2 An Example of Cognitive Analysis

Ex. 9 – 38

Going

There is an evening coming in
 Across the fields, one never seen before,
 That lights no lamps.
 Silken it seems at a distance, yet
 When it is drawn up over the knees and breast
 It brings no comfort.
 Where has the tree gone, that locked
 Earth to the sky? What is under my hands,
 That I cannot feel?
 What loads my hands down?

Michael Burke (2005) discussed three questions about this poem by the British poet Philip Larkin (1922–1985).

1) What are the main attractors at the beginning of the poem?

The title *Going* is a verb of motion. It is thus an attractor and is foregrounded. One can back this up on a linguistic level by saying that single

word verbs of motion are not often employed as titles. In image schematic terms, one can say that there is an element of center-periphery involved here; the center being the ego or *I* position, in effect, the point of departure. Additionally, in cognitive metaphorical terms, we can also observe that *Going* has a fundamental *in-out* structure, i. e. *from here to there*, or from the left to the right. There is also the essence of a skeletal *source-path-goal* cognitive structure, only here the goal or destination is not known. Normally, the word *going* allows us to know in rough terms the starting point and the trajectory, but not the destination. This tantalizing omission, alluding in some ways to our lack of humanistic knowledge of the hereafter, can be seen as a cognitive stylistic foregrounding that would go largely unnoticed if approached solely from a linguistic perspective.

2) What is the figure (trajectory) and ground (landmark) in the first two stanzas?

In stanza one, the word *evening* is the figure (trajector) and *fields* is the ground (landmark). The word *across* is known as the *path*, i. e. the figure is in motion. These are the formal aspects. However, it feels as if there is some kind of clash happening here. Quite clearly the term *going* is movement away from the speaker from a proximal point in space to a distal one. In this sense, it has an IN-OUT structure in orientational cognitive metaphorical terms and a SOURCE-PATH-(unknown GOAL) structure in image schematic terms. But here the evening is *coming in*, i. e. it is traveling towards the speaker from some outside source. Schematically, this can be represented in the following way, with the arrows pointing from right to left, signalling the inverted, i. e. *coming*, nature of the *going*, as it were.

There is an evening coming in / Across the fields (lines 1 – 2)

(SPEAKER?) ← (EVENING) ← FIELDS ← (EVENING) ← (SOURCE?)

In this schematic representation, the source from where the *going* has come from and the speaker to whom the *going* is moving towards are unknown; hence the two question marks and parentheses. Also, *evening* can be represented as being after as well as before the field, as it is still in motion. In image schematic terms, this can be represented as follows.

GOAL (speaker?) ← PATH (across the fields) ← (SOURCE?)

And, finally, in orientational cognitive metaphor terms, the schematic structure would look something like, this:

speaker? (IN) ← (coming) ← evening(OUT)

One point worth noticing at this stage is that receiving something is often seen as a positive act, e. g. a gift, but whether it is positive here is uncertain.

In stanza two the subject is still *evening* but is not mentioned directly. Instead, the poet makes use of pronominal references. *Silken it seems at a distance, yet / When it is drawn up over the knees and breast / It brings no comfort.* (lines 4–6)

Here, again one can observe that the dynamic structure of the *evening* is not *going*, but in effect, the exact opposite, *coming*. However, what makes it different this time is that now the energy source is not solely external but internal, as is represented by the words *drawn up* in line 5. This line can be represented schematically moving in a right to left direction as follows:

(speaker) ← the knees and breast ← over ← drawn up ← evening ← at a distance

In terms of image schemata, this can be represented as follows:

knees and breast (of speaker?) ← over ← (evening) at a distance

GOAL ← PATH ← SOURCE

And also from an orientational cognitive metaphor perspective in the following way:

Over knees and breast (of speaker?) ← (drawn up) ← evening/silken, at a distance

(IN) ← (OUT)

Once again, we might ponder that receiving is often reviewed as a positive event, but here, as in the previous example, this does not seem at all apparent. Also, we can add to this that *UP* is always viewed as positive in cognitive metaphorical terms, i. e. GOOD IS UP, yet here, in the phrase *drawn up*, it is placed in a decidedly negative context. It is as though the comfort of the childhood blanket has been replaced by the sterility of the adult shroud. In employing *UP* in this way, in the phrasal verb *drawn up*, it appears to deviate, from our cognitive-cultural, embodied understanding of the concept of the term. We might therefore say that this phrasal verb could be yet another case of cognitive stylistic foregrounding.

Stanza three includes the negative cognitive construct *UNDER*, i. e. BAD IS DOWN, and ends in the negative word par excellence, *DOWN*. The last stanza, consisting of just one line, *What loads my hands down?* This deviates from our expectations as set out in the poem. It is thus foregrounded and is placed in full focus. The last word of the last line has maximum focus. The poem thus ends in a very negative, cognitive-metaphorical fashion with *down*, in effect, DEATH IS DOWN.

3) Based on the above, what then, or who, is *going*?

The poem is called *Going*; yet, as has been shown, almost all of the image

schematic, cognitive metaphorical and figure and ground cognitive structure are in fact *coming*. Why does the poet do this? What effect might have? There can be no definite answer to these questions but some possible ones might be that, whether consciously or not, Larkin is posing a subtle and complex argument with regard to life and death by allowing words to suggest one thing in the theme of the poem and the underlying cognition to suggest another. The result of this tension is that a reader might experience an almost impalpable feeling of an ebbing and flowing in the poem, iconically mirroring the rhythmic nature of life itself as seen in the cognitive metaphor LIFE IS A CIRCLE. It could very well be that death (*an evening*) is coming in and that the speaker (or *we*) is/are going. Arguably, it is especially a cognitive analysis looking at figure and ground, image schemata, and orientational cognitive metaphors as has been done here that can start to catch these underlying motions in a manner that is more satisfactory than a purely linguistic stylistic analysis would be.

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Language and Computer

10.0 Introduction

With the popularization of the microcomputer which is made possible by using a microprocessor—an integrated circuit that is capable of functioning as a central processing unit, computer has become handy to individual users, to the degree that we now live in a computer-oriented society and use the expression COMPUTER LITERACY to refer to those people who have sufficient knowledge and skill in the use of computers and computer software. In this chapter, we will confine ourselves to the close relation between language and computer, which constitutes a new discipline—computational linguistics.

COMPUTATIONAL LINGUISTICS can be seen as a branch of applied linguistics, dealing with computer processing of human language (Johnson & Johnson, 1999). It includes the analysis of language data so as to establish the order in which learners acquire various grammatical rules or the frequency of occurrence of some particular item (PROGRAMMED INSTRUCTION); it includes electronic production of artificial speech (SPEECH SYNTHESIS) and the automatic recognition of human speech; it includes research on automatic translation between natural languages; and it also includes text processing and communication between people and computers. Although we are not able to cover every aspect of this new discipline, the following topics will be our main concerns.

10.1 Computer-assisted Language Learning (CALL)

10.1.1 CAI/CAL vs. CALL

When discussing computer-assisted language learning, we have first to make a distinction between CAI (computer-assisted instruction) and CAL (computer-assisted learning).

By COMPUTER-ASSISTED INSTRUCTION, we mean the use of a computer in a teaching program (Richards et al., 1998). This includes:

- a. A teaching program which is presented by a computer in a sequence. The students make their responses on the computer, and the computer indicates whether the responses are correct or incorrect.
- b. The use of computers to monitor students' progress so as to direct students into appropriate lessons, materials, etc. This is also called computer-managed instruction.

Parallel to CAI, there is CAL (COMPUTER-ASSISTED LEARNING). The former aims at seeing educational problems on the part of the teacher, whereas the latter emphasizes the use of a computer in both teaching and learning in order to help the learners to achieve educational objectives through their own reasoning and practice, a reflection of newly advocated autonomous learning. The first kind of CAL programs reflects principles similar to programmed instruction. The computer leads the student through a learning task step-by-step, asking questions to check comprehension. Depending on a student's response, the computer gives the student further practice or progresses to new material. In more recent CAL courseware students are able to interact with the computer and perform higher-level tasks while exploring a subject or problem.

If CAI or CAL deals with teaching and learning in general, then CALL deals with language teaching and learning in particular. In the 1980s, some professors and lecturers of the old tradition tended to belittle CALL by saying "I've learned or taught English for twenty or thirty years. I have proved myself a qualified learner and now a qualified teacher without any knowledge of computer. Why should we bother with computer in language learning?" It is unlikely these views will remain unchanged today.

CALL especially refers to the use of a computer in the teaching or learning of a second or foreign language. According to Richards et al., (1998), it may take the form of:

- a. activities which parallel learning through other media but which use the facilities of the computer (e. g. using the computer to present a reading text);



- b. activities which are extensions or adaptations of print-based or classroom-based activities (e. g. computer programs that teach writing skills by helping the student develop a topic and thesis statement and by checking a composition for vocabulary, grammar, and topic development);
- c. activities which are unique to CALL.

10.1.2 Phases of CALL Development

There are mainly 4 phases in the course of CALL development.^①

Phase I. During this period, computers were large mainframe machines kept in research institutions. They were developed for teaching, such as the PLATO (Programmed Logic for Automated Teaching Operation) at the University of Illinois. The teaching methodology was often in the conventional traditions either of grammatical explanation, in which the learner saw a screen display explaining a grammatical point and then had practice material on it, or of audio-lingualism, in which language points in written form were drilled over and over. The problem is programs could only be accessed from terminals on certain university sites.

Phase II. Small computers appeared and cost cheaper than before. This made a generation of programs possible. They could be stored on tapes or floppy disks and the whole system was portable. They were eclectic, pragmatic and student-oriented, rather than assuming massive models of language or theories of teaching.

Phase III. The learning was not so much supplied by the language of the text itself as by the cognitive problem-solving techniques and by the interaction between students in a group. The computer was used as a trigger for interaction between the students. As a result, the computer was no longer an individual resource for each student, it came to be seen as the focal point for group work, this allowing some activities, such as role-play interaction, to be carried out.

Phase IV. Instead of writing specific programs for language teaching, word-processing has adapted to language teaching by enabling students to compose and try out their own writings in a non-permanent form. At the more academic end, experiments have started with the use of multimedia technology to enable a variety of information types to be simultaneously available on the computer so

^① Cf. Warschauer (1996), Warschauer & Healey (1998), Johnson & Johnson (1998/1999). A 3-phase classification was reported, namely, behaviouristic, communicative, and integrative.

that it is no longer restricted to presenting written sentences on a screen but can also produce spoken language and moving video. Some work has taken place on integrating CALL with the more orthodox ideas of learning, leading to ICALL (intelligent CALL).

10.1.3 Technology

For many years, basic drill-and-practice software programs dominated the market in CALL. These programs focused on vocabulary or discrete grammar points. This can be illustrated by a vast array of drill-and-practice programs available. Here are some programs summarized by Higgins (1993).

(1) Customizing, template, and authoring programs

The greatest flexibility for teachings using CALL is in the area of authoring programs. Teachers can use these programs to create simple or elaborate software programs with their own materials. In this way teachers are able to design the program to fit their own lesson plans (Garrett, 1991). Authoring programs range from simple template programs to more complicated authoring languages. This allows the functioning of multimedia capabilities as well as less complicated authoring possibilities.

(2) Computer networks

In addition to those individual programs, computers linked together in networks are expanding the way we teach and learn foreign languages. LOCAL AREA NETWORKS (LAN) are computers linked together by cables in a classroom, lab, or building. They offer teachers a novel approach for creating new activities for students that provide more time and experience with the target language. Certain LAN setups allow students and teachers to correspond with each other via computer or to conduct collaborative writing activities in the target language. Students can also engage in cooperative writing exercises, conversations in the target language, and problem-solving exercises. Teachers can observe students' activities and progress and make comments to individual students from a teacher station similar to that found in an audio lab.

Expanding the unique capabilities of the LAN, long distance networks, or computers linked together across long distances facilitates communication with students throughout the country and the world.

(3) Compact disk technology

Compact disk technology has many uses in foreign language education, including information retrieval, interactive audio, and interactive multimedia programs. The COMPACT DISK-READ ONLY MEMORY (CD-ROM) allows huge amounts of information to be stored on one disk with quick access to the

information. Publishers have put complete encyclopedias, which could fill more than a dozen floppy disks, on one compact disk (CD). In recent years, many foreign language computer programs have been put on compact disks, eliminating the need for too many floppy disks.

(4) Digitized sound

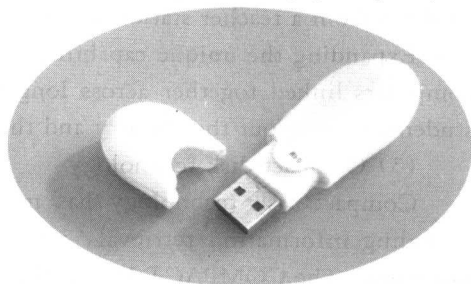
A new dimension has been added to many programs—DIGITIZED SOUND. Compact disks that use digitized sound offer quick random access to information as well as superior sound quality. For instance, a “Lingua ROM” software has a program disk and various language disks that contain the digitized speech. With such programs, students are able to hear the pronunciation of a phrase, a word, or even a syllable or sound and then record their own voice following the example. The students can then listen to the original recording as well as their own and compare the two, until they feel their pronunciation is correct or has improved.

The most recent advance in CD technology is the development of the CD-I (compact disk-interactive). This technology includes digitized sound, compressed video, animation, and possibly text to create a multimedia platform for interactive programs.

(5) USB

Most computers have at most two serial ports, and they are very slow in most cases. The goal of USB (Universal Serial Bus) is to end all of these headaches. Here are some of the USB features: the computer acts as the **host**; up to **127 devices** can connect to the host, either directly or by way of USB hubs; the standard for USB version 2.0 was released in April 2000 and serves as an upgrade for USB 1.1, and with USB 2.0, the bus has a maximum data rate of **480 megabits per second**; USB devices are **hot-swappable**, meaning you can plug them into the bus and unplug them any time. With a USB in hand, students' learning is much more facilitated, either retrieving or downloading.

On the whole, the “assisting” role of CALL will be gradually giving way to a more active and direct role. In January 2004, 4 College English computerized learning systems were approved by China's Ministry of Education, and 2 more learning systems were added to the list by the end of 2005. This heralds a new era



for foreign language education.

10.2 Machine Translation

MACHINE TRANSLATION (MT) refers to the use of machine (usually computers) to translate texts from one natural language to another. MT can be divided into two types, Unassisted MT and Assisted MT. Unassisted MT takes pieces of text and translates them into output for immediate use with no human involvement. Assisted MT uses a human translator to clean up after, and sometimes before, translation in order to get better quality results. Usually the process is improved by limiting the vocabulary through the use of a dictionary and the types of sentences grammar allowed (Napier, 2000).

MT has always been a chief concern in computational linguistics for reasons of philosophy and religion, politics, and economy. Philosophically and religiously, researchers would like to verify whether “the whole earth was of one language, and of one speech” as written in the Christian Bible; politically, non-English speaking countries would not like to see their languages, identities, and cultures to be replaced by one language, say English, as people have the right to use their own languages; economically, MT could cut down the expenses for employing a legion of human translators. Statistics have shown to produce a good translation of a difficult text a translator cannot process more than 4 – 6 pages or 2,000 words per day (Craciunescu, et al., 2004).

10.2.1 History of Development

In spite of the ups and downs in the course of MT development, the field of MT has changed remarkably little since its earliest days in the fifties (Hutchins 1995, 1999; Kay, 1995). Nevertheless, one can still witness the following stages.

(1) The independent work by MT researchers

In the early 1950s, research was necessarily modest in its aims, as it was constrained by the limitations of hardware, in particular, inadequate memories and slow access to storage, and the unavailability of high-level programming languages. Apart from this, research was done independently without necessary assistance from the language experts in those fields of syntax and semantics. Consequently, the first MT researchers had to turn initially to crude dictionary based approaches, that is, predominantly word-for-word translation, and to the application of statistical methods.

With such background, early researchers were aware of the fact that whatever systems they could develop would produce low quality results, so they suggested the major involvement of human translators both for the pre-editing of input texts and for the post-editing of the output. They also proposed the development of controlled languages and the restriction of systems to specific domains.

(2) Towards good quality output

Around 1960, inspired by the early demonstrations, the general public and potential sponsors of MT research began to see things in an optimistic way. They believed that good quality output would be achievable within a few years. This might also be a response to the emergence of greatly improved computer hardware, the first programming languages, and above all by developments in syntactic analysis. Since it was not clear which methods would prove most successful in the long run, so US agencies had to support a large number of projects. In the meantime, enthusiasm for MT spread throughout the world. So the period was marked by the assumption that the goal of MT must be the development of fully automatic systems producing high quality translations and the use of human assistance was regarded as an interim arrangement. Post-editing should be less and less as systems improved. Therefore the emphasis of research was on the search for theories and methods for the achievement of “perfect” translation.

In 1960, Bar-Hillel was strongly critical of the theory-based projects, particularly those investigating the *interlingua* approaches, which included his demonstration of the non-feasibility of FULLY AUTOMATIC HIGH QUALITY TRANSLATION (FAHQT) in principle. Instead, Bar-Hillel advocated the development of systems specifically designed on the basis of what he called “man-machine symbiosis”.

(3) The development of translation tools

Since the 1970s development has continued in three main strands: computer-based tools for translators, operational MT systems involving human assistance in various ways, and “pure” theoretical research towards the improvement of MT methods.

The development of translation tools, such as dictionaries and terminological databanks, multilingual word processing, management of glossaries and terminology resources, input and output communication (e.g. OCR scanners, electronic transmission, high-class printing), was made possible because real-time interactive computer environments were available since the 1960s, word processing appeared in the 1970s, and microcomputers together with networking

and large storage capacities were mass-produced in the 1980s. The most recent addition has been the “translation memory” facility which enables the storage of and access to existing translations for later (partial) reuse or revision or as sources of example translations.

It has also been recognized that all current commercial and operational systems produce output which must be edited or revised if it is to be of publishable quality. It is also widely accepted that MT works best in domain-specific and controlled environments.

10.2.2 Research Methods

MT research methods can be represented from two perspectives, one being from the application of linguistic theories, another from what has been actually practiced by MT researchers. This can be further divided into the following approaches:

(1) The linguistic approach

MT research has been seen as a test-bed for linguistic theories, because the quality of MT and translation can be judged by non-experts.

The relevant theories were information theory, categorical grammar, transformational- generative grammar, dependency grammar, and stratificational grammar in the 1950s and 1960s; artificial intelligence, lexical-functional grammar, generalized phrase structure grammar, head-driven phrase structure grammar, Montague semantics, etc. in the 1970s and 1980s, neural networks, connectionism, parallel processing, and statistical methods and others in the 1990s.

It has also been found out that those new theories which were successful in their initial trials on small samples have turned out to be problematic in the end.

In the early 1990s, research on MT was invigorated by the coming of corpus-based methods, notably the introduction of statistical methods and of example-based translation.

(2) The transfer approach

According to the majority view of machine translation, there is some sort of TRANSFER component in MT systems. This component is specialised so that a pair of languages can produce a target sentence. The transfer component has a correspondence lexicon, which is a comprehensive list of the source-language patterns and phrases mapped to a target language (Napier, 2000). The bulk of the work relies on comparative information about the specific pair languages. So this type of transfer system means that for every two languages translation is required, so this approach is argued for on the view that translation is by its very

nature an exercise in comparative linguistics. As a result, a correspondence lexicon must be created.

(3) The interlingual approach

The INTERLINGUAL approach is based on the understanding that translation between all pairs of a set of languages in principle requires only translation to and from the *interlingua* (a type of intermediate language) for each member of the set. If there are n languages, n components are therefore required to be translated into the *interlingua* and then into the target language. The *interlingua* is not necessarily a language especially designed for this purpose. The benefits of using an *interlingua* are that only one part is required for each language and therefore further languages can be added easily. This approach was challenged by Arnold et al. (1995), who argued that use of an *Interlingua* could cause loss of information (Napier, 2000).

(4) The knowledge-based approach

Recently there is a move toward knowledge-based MT led by Carnegie Mellon University and the Center for Research in Language at New Mexico State University. Arnold et al., (1995) hold the view that three types of knowledge are needed so that MT systems can be improved.

(a) Linguistic knowledge independent of context (semantics). What researchers should do is to associate words with semantic features which in turn allow them to impose constraints on what other kinds of words they appear with.

(b) Linguistic knowledge that relates to context, sometimes called pragmatic knowledge (pragmatics)—The area of pragmatics is being dealt with in many different ways. One of these is by learning the notion of focus in a sentence.

(c) Common sense/real world knowledge (non-linguistic). The first two problems are language-oriented but they are not the most problematic, but a system containing a bilingual dictionary and knowledge of grammar does not guarantee good quality translation. It is the lack of real world language on the part of computers that baffles the researchers. Computers do not understand the relationships things have with each other or how things fit together. For example a computer cannot tell the difference between an edible apple and the brand name "Apple" of a personal computer. Neither can it tell the meaning of the Chinese word "*ding*" (顶) in "*shan ding*" (山顶, the top of the hill), "*ding feng*" (顶风, go against the wind), and "*ding hao*" (顶好, very good). It is this sort of problems that puzzled not only MT theorists, but also researchers in the fields of Neural Networks and Artificial Intelligence for many years.

With the help of corpus linguistics, recently research has moved into the area of example-based machine translation. The method uses correct translation as

a principal source of information for the creation of new ones.

10.2.3 MT Quality

It has to be admitted that there are still faults in all present actual translations produced.

One can still find those errors that no human translators would ever commit, such as wrong pronouns, wrong prepositions, garbled syntax, incorrect choice of terms, plurals instead of singulars, wrong tenses, etc. There is a famous old example cited by Kay (1982) that illustrates the point well.

Ex. 10 - 1

The police refused the students a permit because they feared violence.

Suppose that ex. 10 - 1 is to be translated into a language like French in which the word for *police* is in feminine gender. Presumably the pronoun that translates *they* will also have to be feminine. Now replace the word *feared* with *advocated*. Suddenly it seems that *they* refers to the *students* and not to the *police* and, if the word for *students* is masculine, it will therefore require a different translation. The knowledge required to reach these conclusions has nothing linguistic about it. It has to do with everyday facts about *students*, *police*, *violence*, and the kinds of relationships we have seen these things enter into.

Secondly, translation is not an operation that preserves meaning. Consider the following question stated in French:

Ex. 10 - 2

Où voulez-vous que je me mette?

It means literally "Where do you want me to put myself?" But this is a very natural translation for a whole family of English questions of the form "Where do you want me to sit/stand/sign my name/park/tie up my boat?" In most situations, the English "Where do you want me?" would be acceptable, but it is natural and routine to add or delete information in order to produce a fluent translation. Sometimes it cannot be avoided because there are languages like French in which pronouns must show number and gender, Japanese where pronouns are often omitted altogether, Russian where there are no articles, Chinese where nouns do not differentiate singular and plural nor verbal present and past, and German where flexibility of the word order can leave uncertainties about what is the subject and what is the object.

Of course, this will not pose a problem if systems remain research prototypes and poor quality, there would be little public impact. But when it comes to commercial systems the whole MT industry will suffer from the poor quality translation. Unfortunately this situation will probably not change in the

near future. There is little sign that basic general-purpose MT engines are going to show significant advances.

10.2.4 MT and the Internet

The impact of the Internet has been significant in recent years. One hears very often that the 21st century is the Internet Era. Naturally we are already seeing an accelerating growth of real-time on-line translation on the Internet itself. For instance, in recent years we have seen many systems designed specifically for the translation of Web pages and of electronic mail. There is clearly an urgent need for translation systems developed specifically to deal with the kind of colloquial (often ill formed and badly spelled) messages found on the Internet. In this case, we cannot depend on those old linguistics rule-based approaches. Although corpus-based methods making use of the voluminous data available on the Internet itself are appropriate, there has been little research on such systems.

It is all agreed that the Internet is having further profound impacts that will surely change the future prospects for MT. One of the predictions is that the stand-alone PC with its array of software for word-processing, databases, games, etc. will be replaced by NETWORK COMPUTERS which would download systems and programs from the Internet as when required. In this case, the one-off purchase of individually packaged MT software, dictionaries, etc. would be replaced by remote stores of MT programs, dictionaries, grammars, translation archives, specialized glossaries, etc. which would presumably be paid for according to usage.

Another profound impact of the Internet will concern the nature of the software itself. What users of Internet services are seeking is information in whatever language it may have been written or stored, translation is just one means to that end. Users will need an integration of information retrieval, extraction and summarization systems with translation. So it is probable that in future years there will be fewer "pure" MT systems but many more computer-based tools and applications where automatic translation is just one component.

10.2.5 Speech Translation

The most widely anticipated development in the new century must be that of speech translation. When research projects were begun in the late 1980s and early 1990s, it was known that practical applications were unlikely. The limitation of these systems to small domains has clearly been essential for any

progress. It is more likely that there will be numerous applications of spoken language translation as components of small-domain natural language applications, e. g. interrogation of databases (particularly financial and stock market data), interactions in business negotiations, intra-company communication, etc.

10.2.6 MT and Human Translation

At the beginning of the new century, it is already apparent that MT and human translation can and will co-exist in relative harmony. When translation has to be of “publishable” quality, both human translation and MT have their roles. Machine translation is demonstrably cost-effective for large scale and/or rapid translation of (boring) technical documentation, (highly repetitive) software localization manuals, and many other situations where the costs of MT plus essential human preparation and revision or the costs of using computerized translation tools are significantly less than those of traditional human translation with no computer aids. In contrast, the human translator is and will remain unrivalled for non-repetitive linguistically sophisticated texts (e. g. in literature and law), and even for one-off texts in specific highly-specialized technical subjects.

For the translation of texts where the quality of output is much less important, machine translation is often an ideal solution. For example, to produce “rough” translations of scientific and technical documents that may be read by only one person who wants to merely find out the main content and information and is unconcerned whether everything is intelligible or not, and who is certainly not deterred by stylistic awkwardness or grammatical errors, MT will increasingly be the only answer.

For the one-to-one interchange of information, there will probably always be a role for the human translator, e. g. for the translation of business correspondence (particularly if the content is sensitive or legally binding). But for the translation of personal letters, MT systems are likely to be increasingly used; and, for electronic mail and for the extraction of information from Web pages and computer-based information services, MT is the only feasible solution.

As for spoken language translation, there must surely always be a market for the human translator. But MT systems are opening up new areas where human translation has never featured: the production of draft versions for authors writing in a foreign language, who need assistance in producing an original text, the real-time on-line translation of television subtitles; the translation of information from databases, and no doubt, more such new applications will

appear in the future as the global communication networks expand and as the realistic usability of MT becomes familiar to a wider public.

10.3 Corpus Linguistics

In the previous section, we were led to know that one of the MT approaches is the example-based system, that is, a system “able to refer to a collection of existing translations.” This presupposes a very large corpus concerning existing translation. Although American structural linguists all used a corpus-based methodology (Kennedy, 1996), thanks to the development of computer technology, the marriage between “corpus” and “linguistics” is made possible, so in this section we will mainly deal with the computer corpora.

10.3.1 Definition

There are various definitions concerning CORPUS and CORPUS LINGUISTICS. The following are two representative ones which appeared in the same year:

Corpus, plural *corpora*. A collection of linguistic data, either compiled as written texts or as a transcription of recorded speech. The main purpose of a corpus is to verify a hypothesis about language—for example, to determine how the usage of a particular sound, word, or syntactic construction varies.

Corpus linguistics deals with the principles and practice of using corpora in language study. A computer corpus is a large body of machine-readable texts.

(cf. Crystal, David. 1992:85. *An Encyclopedic Dictionary of Language and Languages*.)

CORPUS (13c. from Latin *corpus* body. The plural is usually *corpora*) (1) A collection of texts, especially if complete and self-contained; *the corpus of Anglo-Saxon verse*. (2) Plural also *corpuses*. In linguistics and lexicography, a body of texts, utterances or other specimens considered more or less representative of a language, and usually stored as an electronic database. Currently, computer corpora may store many millions of running words, whose features can be analyzed by means of tagging (the addition of identifying and classifying tags to words and other formations) and the use of concordancing programs. Corpus linguistics studies data in any such corpus.

(cf. McArthur, Tom [ed.] 1992:265 – 266. *The Oxford Companion to the English Language*.)

10.3.2 Criticisms and the Revival of Corpus Linguistics

In spite of its contribution to the development of American structuralism in linguistics, it was Chomsky who changed the direction of linguistics away from empiricism and towards rationalism in a remarkably short space of time. In doing so he apparently invalidated the corpus as a source of evidence in linguistic enquiry. Chomsky suggested that the corpus could never be a useful tool for the linguist, as the linguist must seek to model language competence rather than performance. For another thing, the only way to account for a grammar of a language is by description of its rules—not by enumeration of its sentences. It is the syntactic rules of a language that Chomsky considers finite. Thirdly, even if language is a finite construct, would corpus methodology still be the best method of studying language? For instance, in ex. 10 – 3, how can ungrammatical utterances be distinguished from ones that simply haven't occurred yet? If our finite corpus does not contain the sentence (a), how do we conclude that it is ungrammatical, while those in (b), (c) and (d) are grammatical?

Ex. 10 – 3

- (a) * He shines Tony books.
- (b) He gives Tony books.
- (c) He lends Tony books.
- (d) He owes Tony books.

Apart from Chomsky, there were problems of practicality with corpus linguistics. For instance, how can one imagine searching through an 11-million-word corpus using nothing more than one's eyes (Abercrombie, 1963)?

Although Chomsky's criticisms did discredit corpus linguistics in some way, they did not stop all corpus-based work. For example, Quirk (1961) planned and executed the construction of his ambitious *Survey of English Usage* (SEU). In 1975, Jan Svartvik started to build on the work of the SEU and the Brown corpus to construct the London-Lund corpus. After the computer slowly started to become the mainstay of corpus linguistics, Svartvik computerized the SEU, and as a consequence produced what some, including Leech (1991), still believe to be "to this day an unmatched resource for studying spoken English".

10.3.3 Concordance

It was the wonder of computer that heralded the revival of corpus

linguistics. The computer has the ability to search for a particular word, sequence of words, or perhaps even a part of speech in a text. The computer can also retrieve all examples of a particular word, usually in context, which is a further aid to the linguist. It can also calculate the number of occurrences of the word so that information on the frequency of the word may be gathered. We may then be interested in sorting the data in some way—for example, alphabetically on words occurring in the immediate context of the word. This is usually referred to as CONCORDANCE. We may take our initial list of examples of the word and extract from this another list, say of all the examples of the word followed closely by another word, say pronoun, or followed by a punctuation mark. This process described above is often included in a concordance program. Ex. 10-4 illustrates the concordance listing for the word *deal* (Biber, et al., 1998).

Ex. 10-4

and secret plans proposed to	<i>deal</i>	with the mass sit-down	1
of companies and put one property	<i>deal</i>	through each. Mr.	2
In particular, a good	<i>deal</i>	of concern has been	3
hangs a tale-and a great	<i>deal</i>	of money. Neville	4
where his new measures to	<i>deal</i>	with Britain's	5
just a matter of working a good	<i>deal</i>	harder before we really	6
"I'm mixed up in a	<i>deal</i>	involving millions	7

This is the tool more often implemented in corpus linguistics to examine corpora. Whatever philosophical advantages we may eventually see in a corpus, it is the computer which allows us to exploit corpora on a large scale with speed and accuracy.

Concordances are frequently used as a tool in linguistics that can be used for the study of a text such as: comparing different usages of the same word; analysing keywords; analysing word frequencies; finding and analysing phrases and idioms; creating indexes and word lists (also useful for publishing).

10.3.4 Text Encoding and Annotation

If corpora are said to be unannotated—they appear in their existing raw state of plain texts, whereas annotated corpora have been enhanced with various type of linguistic information. Unsurprisingly, the utility of the corpus is increased when it has been annotated, making it no longer a body of text where linguistic information is implicitly present, but one which may be considered a repository of linguistic information. The implicit information has been made explicit through the process of concrete annotation. For example, the form *gives* contains the implicit part-of-speech information “a third person singular present tense

verb” but it is only retrieved in normal reading by recourse to our pre-existing knowledge of the grammar of English. However, in an annotated corpus the form *gives* might appear as “*gives _ VVZ*” with the code VVZ indicating that it is a third person singular present tense (Z) form of a lexical verb (VV). Such annotation makes it quicker and easier to retrieve and analyze information about the language contained in the corpus.

Leech (1993) describes 7 maxims which should apply in the annotation of text corpora:

1. It should be possible to remove the annotation from an annotated corpus in order to revert to the raw corpus.
2. It should be possible to extract the annotation by itself from the text.
3. The annotation scheme should be based on guidelines which are available to the end user.
4. It should be made clear how and by whom the annotation was carried out.
5. The end user should be made aware that the corpus annotation is not infallible, but simply a potentially useful tool.
6. Annotation schemes should be based as far as possible on widely agreed and theory-neutral principles.
7. No annotation scheme has the priori right to be considered as a standard.

It has to be pointed out that some of Leech’s maxims are not easy to observe. Take Maxim 1 for example, at times this can be a simple process—removing every character after an underscore, “*Claire _ NP1 collects _ VVZ shoes _ NN2*” would become *Claire collects shoes*. However, the prosodic annotation of the London-Lund corpus is interspersed within words—for example “g/oing” indicates a rising pitch on the first syllable of the word, meaning that the original words cannot be so easily reconstructed.

10.3.5 The Roles of Corpus Data

The importance of corpora to language study is aligned to the importance of empirical data. Empirical data enable the linguist to make objective statements, rather than those which are subjective, or based upon the individual’s own internalized cognitive perception of language. Starting from this point, we will find corpora can play important roles in a number of different fields of study related to language, such as speech research, lexical studies, grammar, semantics, pragmatics, discourse analysis, socio-linguistics, stylistics, historical linguistics, dialectology, variation studies, psycholinguistics, social psychology, cultural studies, etc. In view of the huge amount of corpus-based linguistic

research, the examples here are selective.

(1) Speech research

A spoken corpus provides a broad sample of speech, extending over a wide selection of variables such as speaker's gender, age, class, etc. This allows generalizations to be made about spoken language as the corpus is as wide and as representative as possible. It allows for variation within a given spoken language to be studied. It also provides a sample of naturalistic speech rather than speech elicited under artificial conditions. Because the (transcribed) corpus has usually been enhanced with prosodic and other annotations it is easier to carry out large scale quantitative analyses than with fresh raw data. Where more than one type of annotation has been used it is possible to study the interrelationships between, say, phonetic annotations and syntactic structure.

(2) Lexical studies

A linguist who has access to a corpus can call up all the examples of a word or phrase from millions of words of texts in a few seconds. Dictionaries can be produced and revised much more quickly than before, thus providing up-to-date information about language. Also, definitions can be more complete and precise since a large number of natural examples are examined. What is more, the ability to call up word combinations rather than individual words, and the existence of mutual information tools which establish relationships between co-occurring words mean that we can treat phrases and collocations more systematically than was previously possible. A phraseological unit may constitute a piece of technical terminology or an idiom, and collocations are important clues to specific word senses.

(3) Semantics

Corpus linguistics contributes to semantics by helping to establish an approach which is objective, because semantic distinctions are associated in texts with characteristic observable contexts—syntactic, morphological and prosodic, and by considering the environments of the linguistic entities an empirical objective indicator for a particular semantic distinction can be arrived at.

Another role of corpora in semantics has been in establishing more firmly the notions of fuzzy categories and gradience. In theoretical linguistics, categories are usually seen as being hard and fast—either an item belongs to category or it does not. However, psychological work on categorization suggests that cognitive category are not usually “hard and fast” but instead have fuzzy boundaries, so what matters is how often it falls into one category as opposed to the other one. In looking empirically at natural language in corpora it is clear that this “fuzzy” model accounts better for the data; clear-cut boundaries do not exist; instead there are gradients of membership which are connected with

frequency of inclusion.

(4) Sociolinguistics

Although sociolinguistics is an empirical field of research, it is not often rigorously sampled. Sometimes the data are also elicited rather than naturalistic data. A corpus can provide what these kinds of data cannot provide—a representative sample of naturalistic data which can be quantified. In order to examine the masculine bias in American and British English, Kjelmer (1986) looked at the occurrence of masculine and feminine pronouns, and at the occurrence of the item *man/men* and *woman/women*. It was noticed that the frequencies of the female items were much lower than the male items in both corpora. Second, the female items were more common in British English than in American English.

When the methodology is concerned, Holmes (1994) pointed out that when classifying and counting occurrences the content of the lexical item should be considered. For instance, while there is a non-gender marked alternative for *policeman/policemen*, namely *police officer*, there is no such alternative for the *-ess* form as in *Duchess of York*. The latter form should therefore be excluded from counts of “sexist” suffixes when looking at gender bias in writing. Holmes also pointed out the difficulty of classifying a form which it is actively undergoing semantic change. She argues that the word *man* can refer to both a single male (such as in the phrase *A 35 year old man was killed*), or can have a generic meaning which refers to mankind (such as *Man has engaged in warfare for centuries*). Then, in expressions such as *we need the right man for the job*, it is difficult to decide whether *man* is gender specific or could be replaced by *person*.

(5) Psycholinguistics

In the field of psycholinguistics, sampled corpora can provide psycholinguists with more concrete and reliable information about frequency, including the frequencies of different senses and parts of speech of ambiguous words. Next, corpora data can be used to examine the occurrence of speech errors in natural conversations. A third role for corpora lies in the analysis of language pathologies, where an accurate picture of abnormal data must be constructed before it is possible to hypothesize and test what may be wrong with the human language processing system.

10.4 Computer Mediated Communication

COMPUTER MEDIATED COMMUNICATION (CMC) is distinguished

by its focus on language and language use in computer networked environments, and by its use of methods of discourse analysis to address that focus (Herring, 2001). Text-based CMC takes a variety of forms (e. g. e-mail, discussion groups, real-time chat, virtual reality role-playing games) whose linguistic properties vary depending on the kind of messaging system used and the social and cultural context embedding particular instances of use. Human-to-human communication via computer networks, or interactive networking, is a recent phenomenon (Herring, 2001). In this section, we will mainly discuss the following topics, mail and news, blog, chatrooms, emoticons and smileys.

10.4.1 Mail and News

Once you enter NETSCAPE or INTERNET EXPLORER, there are mainly two choices for your browsing, search/navigation or messenger mail-box, the former concerning information retrieval, the latter dealing with mail/news acceptance and delivery. In the past, if we wrote to a friend or relative, the letter will take 2 or 3 days to reach the destination, and maybe one or two weeks to someone in another country, to say nothing of the cost of postage. Long distance phone call might save time, but it is charged second by second, and you have to make several phone calls if you want to pass on the same message to different people. By means of e-mail, one can send the same mail to a number of correspondents or send files and graphs by way of attachment.

Apart from this, the MESSENGER MAILBOX with the help of listserv or majodomo can also help the user with academic activities. What the user has to do is to subscribe to an electronic forum or society or journal. When his subscription is confirmed, he may receive information about the call of papers of conferences, the announcement of new books or journals published, and even job opportunities; he may raise queries for help or take part in discussions about academic matters and read a review when the discussion is over (Hu, 1997). Take *The Linguist* for example, the present writer received the following messages from the mailbox in the morning of April 19, 2001.

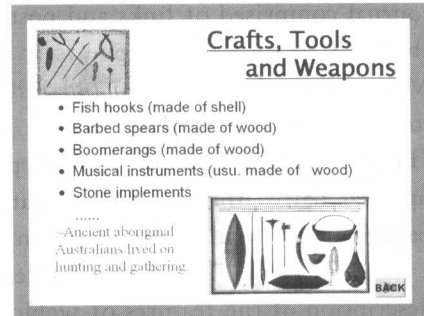
Series No.	Subject	Time received
12.1085	FYI: Summer School	01-4-19 4:41
12.1084	Review: Corrections	01-4-19 3:54
12.1083	Review: Verbal Complexes	01-4-18 23:51
12.1082	Confs: Modality in...	01-4-18 3:30
12.1081	Qs: English speakers...	01-4-18 23:24
12.1080	Qs: DESS ou un DEA	01-4-18 22:16
12.1079	Books: Syntax/Semantics	01-4-18 21:43

Here, “FYI” stands for “for your information”, so the item No. 12.1085 is a poster about a summer school of linguistics. Items 12.1084 and 12.1083 are two review articles about linguistic publications, one about how to deal with WWW corrections, the other about verbal complexes. Item 12.1082 is an announcement of an international academic conference themed on modality to be held on a certain date. Items 12.1081 and 12.1080 are questions about English speakers and French put up by some users who expected someone to answer them. Finally, a message about the launching of new books about syntax and semantics is given in item 12.1079.

10.4.2 PowerPoint

POWERPOINT is an application which enables one to create slide shows on his/her computer screen. The user creates individual slides, which can contain text, graphics, sound, animation and video. When the user has created all the slides, he/she can either present the slide show personally, or set up the slides so that they run themselves.

Therefore, PowerPoint is a presentation authoring software creating graphical presentations with or without audio. Microsoft PowerPoint is the most



popular presentation program developed for the Microsoft Windows and Mac OS computer operating systems. Being widely used by government officials, business people, educators, and trainers, it is among the most prevalent forms of persuasion technology: according to its vendor, Microsoft Corporation, some 30 million presentations are made with PowerPoint every day. ①

With regard to PowerPoint, we have to make sure what we are talking about: PowerPoint as a tool (software), PowerPoint’s deck of slides as a text, and PowerPoint presentation as a genre.

PowerPoint tool is a software used to write outlines or create the presentation visuals on the slides. It is designed by Microsoft scientists as a software to go together with Office. It can help the user to communicate, but it does not represent meaning itself.

PowerPoint text has been broadly understood as the product created visually,

① from: <http://en.wikipedia.org/wiki/PowerPoint>

graphically, acoustically, or audio-visually. That is to say, each PowerPoint presentation, for example, a report, a speech, or a lesson, is a text. It may be represented by only one slide, or a deck of slides. However, all these slides develop upon a common theme.

As for PowerPoint as a genre, it refers to a recurring type of activities, just like we talk about a letter, a note, a story, a dialogue, a novel, a speech, a play. People did see PowerPoint as a tool in the past, but today they are inclined to see it as a genre. (House, et al., 2005).

10.4.3 Blog

Weblogs first appeared in the mid-1990s, becoming popular as simple and free publishing tools became available towards the turn of the century.

A WEBLOG, or BLOG for short, is defined by Dan Gilmore as “an online journal comprised of links and postings in reverse chronological order, meaning the most recent posting appears at the top of the page” (BlogsCanada, 2005). Matisse Enzer’s *Glossary of Internet Terms* puts it this way: A blog is basically a journal that is available on the web. The activity of updating a blog is “blogging” and someone who keeps a blog is a “blogger.” Blogs are typically updated daily using software that allows people with little or no technical background to update and maintain the blog.

BlogCanada (2005) and Walker (2005) provide us with a somewhat detailed description of the features of weblogs.

(1) Weblogs are “post-centric”, not “page-centric”, that is to say, the posting is the key unit.

(2) Postings on a blog are almost always arranged in chronological order with the most recent additions featured most prominently.

(3) Weblogs are serial and cumulative, and readers tend to read small amounts at a time, returning hours, days, or weeks later to read entries written since their last visit. This serial or episodic structure is similar to that found in epistolary novels or diaries, but unlike these a weblog is open-ended, finishing only when the writer tires of writing.

(4) Many weblog entries are shaped as brief, independent narratives, and some are explicitly or implicitly fictional, though the standard genre expectation is non-fiction. Some weblogs create a larger frame for the micro-narratives of individual posts by using a consistent rule to constrain their structure or themes.

(5) Since anybody with a net connection can publish their own weblog, there is great variety in the quality, content, and ambition of weblogs. It may be a running commentary on current events in a specific arena, a series of personal

musings, a purely political tract, a site devoted to the latest and greatest gadgets, a constantly updated “what’s new” by a domain expert.

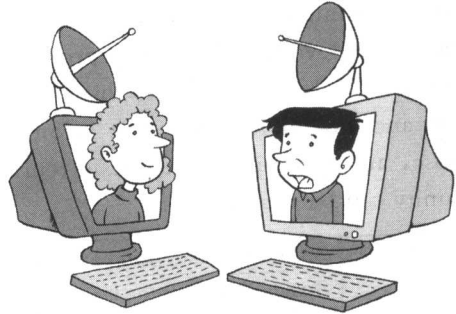
(6) Most weblogs use links generously, allowing readers to follow conversations between weblogs by following links between entries on related topics. Readers may start at any point of a weblog, seeing the most recent entry first, or arriving at an older post via a search engine or a link from another site, often another weblog. Once at a weblog, readers can read on in various orders: chronologically, thematically, by following links between entries or by searching for keywords. Weblogs also generally include a blogroll, which is a list of links to other weblogs the author recommends. Many weblogs allow readers to enter their own comments to individual posts.

(7) Weblogs are published by individuals and their style is personal and informal.

(8) What the best individual blogs tend to have in common is voice—they are clearly written by human beings with genuine human passion.

10.4.4 Chatroom

Compared with blog, the notion of CHATROOM or CHAT ROOM would be simpler to capture. In its layman’s term, a chatroom suggests to talk (chat) in a group (room) on the Internet. Therefore, the simplest definition for chatroom is a site on the Internet where a number of users can communicate in real time (typically one dedicated to a particular topic).^①



The online encyclopedia *Wikipedia* gives us a somewhat detailed description: “A chat room is an online forum where people can chat online (talk by broadcasting messages to people on the same forum in real time). Sometimes these venues are moderated either by limiting who is allowed to speak (not common) or by having moderation volunteers patrolling the venue watching for disruptive or otherwise undesirable behavior.”^②

Usually a would-be participant will need to sign in to have a name in the

① from: <http://wordnet.princeton.edu/perl/webwn>

② from: <http://en.wikipedia.org/wiki/Chatroom>

room and then the person can see who else is in the room. Some chat rooms allow the participant to talk to one individual without the others seeing you. Although the users are free to enter a chatroom site and are free to talk whatever they like, many chatrooms are monitored for unacceptable, offensive, racial, violence, sexual content, etc.

10.4.5 Emoticons or Smileys

When people have been writing by means of email correspondence, blogging, or keyboard chat as mentioned in the previous sections, we will notice such kind of communication has produced immense washback effects, for instance, users tend to use less punctuation and to use acronyms to stand for words, e.g. “u” for “you”, “4” for “for”, “r” for “are”, “brb” for “be right back”, etc. Such changes can also be found in structures in terms of increase in short sentences and informal expressions, and the avoidance of direct addresses, etc. (张德禄, 1998; 董启明 刘玉梅, 2001). This leads us to the topic of EMOTICON or SMILEY.

An **Emoticon** is a sequence of ordinary characters you can find on your computer keyboard. Emoticons are used in e-mail, chat, SMS and other forms of communication using computers. The most popular emoticons are the **smiling faces** (smileys or smilies) that people use to say “don’t take what I just wrote too seriously”. If you don’t see that it represents a smiling face, tip your head to the left and look at it again. The colon represents the eyes, the dash represents the nose, and the right parenthesis represent the mouth. The most common and funny can be found here.

: -)	Standard Smiley (you are joking; satisfied)
:)	Standard Smiley for lazy people
, -)	Winking Smiley. You don’t mean it, even if you are joking
;-)	Winking Smiley. See above
: ->	Follows a really sarcastic remark
(- :	Left handed Smiley
: -(	Sad Smiley. You aren’t joking; You are not satisfied
: <	Very Sad Smiley
: C	Very Sad Smiley
: -*	Kissing Smiley

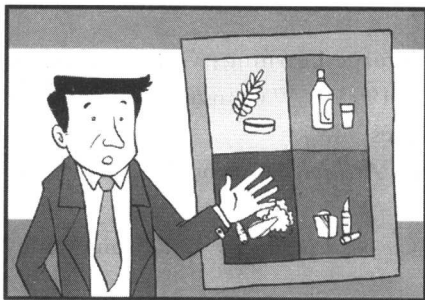
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Linguistics and Foreign Language Teaching

11.1 The Relation between Linguistics and Language Teaching

There are at least two reasons why this book has a chapter on the relation between linguistics and language teaching. Firstly, language teaching is part of APPLIED LINGUISTICS and applied linguistics is part (or a branch) of linguistics. Secondly, and more importantly, many readers of this book are or will be language teachers. We believe some knowledge of linguistics will not



only help language teachers to better understand the nature of language, but also help them better understand how to teach language. Theoretical views of language explicitly or implicitly inform the approaches and methods adopted in language teaching (Richards and Rodgers, 2001). Although one chapter cannot cover too much about

language teaching theory and practice, we still think it necessary to introduce some implications for language teaching of existing linguistic studies. In fact, linguistics, as the science of language, should be of fundamental importance for teachers of language (Lehmann, 1979). McCarthy and Carter (1994:xi) have challenged the assumption that English language teachers already know enough about the language and that learning more about the language need not be something to consume too much of their valuable time. Language teachers should be concerned with how to teach language effectively, but methodology is not all teachers need to know.

Many teachers agree they should know more about the language they are teaching, but they are still not sure whether they need a theory of language in order to teach it well; that is, whether they should learn a fair amount of

knowledge in linguistics. Our answer to this question is that language teachers do need a theory (*maybe* theories) of language in order to teach language effectively. They need to know at least how the language they teach works. For example, McDonough (2000) has argued for the necessity and advantage of knowing descriptive linguistics' principles and applying them in the classroom. According to McDonough, a teacher who is able to explain some linguistic features would have a stronger position than one who handles the argument by using authority "it's like that", "it's an exception", or "it's less formal" (p.33).

Language teachers must present the real language and the entire language, not merely its phonology or lexicon or syntax. To discover the real language and to obtain some understanding of it, language teachers may well turn to linguistics. Obviously language teachers should learn as much as possible from linguists; but since language teachers have many additional requirements, they cannot be expected to become linguists. Language teachers should draw on linguists' achievements rather than teach linguistics in every language classroom.

Language teachers should also be aware that there is no unified school of linguistics; rather, there are a variety of linguistic theories. Teachers should be aware that there are conflicts among the various schools of linguistics, with successive schools disavowing their predecessors (Lehmann, 1979).

In the following sections of this chapter, we will discuss some major domains of language teaching in relation to linguistics.

11.2 Linguistics and Language Learning

Before we discuss how linguistic studies inform language teaching, let's first see how linguistic studies help us better understand the process of language learning. Many language learning theories are proposed based on certain linguistic theories. In fact, knowledge in linguistics lies at the root of understanding what language learners can learn, how they actually learn and what they learn ultimately. Therefore, linguistics has always played an important role in the studies of language acquisition and learning. For example, as Ellis(1994:1) points out, "[w]hereas much of the earlier [second language acquisition] work focused on the linguistic and, in particular, the grammatical-properties of learner language and was psycholinguistic in orientation, later work has also attended to the pragmatic aspects of learner language and, increasingly, has adopted a sociolinguistic perspective. So linguistics has indeed been relevant

to second language acquisition research" (Cook, 2000:3).

Since linguistic studies and language learning research are so intricately related to each other, we will be unable to elaborate on all issues. We will bring up some of the issues to demonstrate the significance of linguistics on language learning.

Before we move on, let's make one more clarification. By saying "knowledge in linguistics can serve language learning", we do not mean how language learners can facilitate or enhance their learning process by studying linguistics. Although certain language learners (e. g. , advanced learners and students majoring in a foreign language) certainly benefit from a knowledge of linguistics, it is not sensible to recommend the majority of language learners to study linguistics while they are still struggling with the task of learning the language itself. Therefore, in this section we will focus on how linguistics can help to contribute to the solution of some disputable issues in language learning research. The discussions are made relevant to the previous chapters of this book in that readers (especially those involved in language education) are invited to reflect on the applications of their study of linguistics.

11.2.1 Grammar and Language Learning

One of the major issues raised by second language acquisition researchers is the controversial question of whether and how to include grammar in second language instruction. The discrete-point grammar instruction conducted by more traditional language teachers has been widely criticized for focusing on forms and

ignoring meanings. However, findings from immersion and naturalistic language acquisition studies suggest that when classroom second language learning is entirely experiential and meaning-focused, some linguistic features do not ultimately develop to target-like levels (Doughty and Williams, 1998: 2). As a compromise between the "purely form-focused approaches" and the "purely meaning-focused" approaches, a recent movement called FOCUS ON FORM seems to take a more balanced view on the role of grammar in language learning.

The key point in focus on form is that although language learning should generally be



meaning-focused and communication-oriented, it is still necessary and beneficial to focus on form occasionally. Focus on form often consists of an occasional shift of attention to linguistic code features—by the teacher and/or one or more students—triggered by perceived problems with comprehension or production (Long & Robinson, 1998:23).

Although success stories about focus on form have been well documented, the practice of focus on form is not without problems. One question raised is what elements of language are most amenable to focus on form. This question has been dealt with mostly from a linguistic point of view (DeKeyser, 1998). Two variables concerning the amenability of language elements to focus on form are the relevance of Universal Grammar (UG) and complexity of language structures. According to the advocates of focus on form, if an L2 structure is part of UG, the amenability is high; otherwise, the amenability is low. In focus on form, different measures will be taken depending on whether the amenability of a form (structure) is high or low. The problem is that no one knows for sure what exactly is part of UG. It is here that the study of linguistics comes into play. The study of UG, which is often considered as the theory for the sake of theory, is now needed in language learning research in the most practical sense.

Besides its relevance to focus on form, the study of UG has attracted considerable attention from many second language acquisition researchers because, as Ellis (1994:35) points out, knowledge of linguistic universals may help to shape L2 acquisition in a number of ways. For example, it can provide explanations for developmental sequences and language transfer.

The variable of complexity is not any easier to tackle. It can be assumed that less complex structures have higher amenability, but complexity is hard to define. Formally simple structures can be functionally complex and formally complex items are not necessarily functionally complex. Again we resort to linguistics in order to have a better understanding of the complexity of language structures.

At the present time it is generally agreed grammar has its due value in language learning. The problem is we do not know enough about grammar, or even we do not agree on what grammar is. One possible reason why grammar-based language learning and teaching fails is that no reliable model of grammar is available. Formalist models of grammar, generative models of grammar and functional models of grammar have all been tried out and investigated into (Ellis, 1997:73). But still no precise information is obtained concerning how grammar can be learned. The problem is not that SLA researchers and teachers have been unable to make an informed choice among the grammar models but

that none of the grammar models is satisfactory enough. The importance of linguistic study of grammar is self-evident. We need a better description of grammar.

11.2.2 Input and Language Learning

It is self-evident that language learning can take place when the learner has enough access to input in the target language. This input may come in written or spoken form. In the case of spoken input, it may occur in the context of interaction (i. e. the learner attempts to converse with a native speaker, a teacher, or another learner) or in the context of non-reciprocal discourse (for example, listening to the radio or watching a film).

Although the value of input is not questionable, views diverge greatly as to what kind of input should be provided for language learners. Those who have more faith in meaning-focused language instruction tend to insist on providing authentic input. Ideally, materials at all levels should provide frequent exposure to authentic input which is rich and varied. In other words, the input should vary in style, mode, medium and purpose and should be rich in features which are characteristic of authentic discourse in the target language (Tomlinson, 1998: 13).

Despite the advantages of authentic input, strong views have also been expressed that any input must be comprehensible if it is to have any effect on learning. According to Krashen's INPUT HYPOTHESIS (1985), learners acquire language as a result of comprehending input addressed to them. Krashen brought forward the concept of "i + 1" principle, i. e. the language that learners are exposed to should be just far enough beyond their current competence so that they can understand most of it but still be challenged to make progress. Input should neither be so far beyond their reach that they are overwhelmed, nor so close to their current stage that they are not challenged at all.

Inspired by Krashen's Input Hypothesis, many researchers have conducted studies on kinds of optimal input, two of which are "premodified input" and "interactively modified input". PREMODIFIED INPUT is material that is finely tuned in advance to the learner's current level, whereas INTERACTIVELY MODIFIED INPUT is material (usually spoken discourse) that is modified when the teacher and the learners interact. Preliminary results from research have shown that interactively modified input is more likely to do a better job.

Although the value of input in language learning is self-evident, research on input has been hampered by many problems, one of which is the lack of

linguistic analysis of different types of input. It is probably true that different types of input lead to different effect in language learning, but we do not know what are the exact linguistic differences between these types of input. Concerning the issues raised above, we need to answer the following questions if we wish to have a better understanding of input in language learning:

(1) Linguistically, how is authentic input different from non-authentic input?

(2) Suppose the so called 'i + 1' input is desirable, how can we be sure this input is not 'i + 0' or 'i + 2'? Are there sound linguistic criteria to judge whether the 'i + 1' input is just far enough (no more no less) beyond the learners current level?

(3) Suppose modified input (however modified) is what we should provide for the learners, how should we modify input? Linguistically or what? If linguistically, what should be the criteria?

If empirical research has shown that a certain type of input is desirable for language learning, then the next step is to examine its linguistic features so that we can create or look for similar material. This is another area in language learning where linguistic studies can make due contribution.

11.2.3 Interlanguage in Language Learning

Besides input, output has also been reported to promote language acquisition (Swain, 1985; Skehan, 1998). Correct production requires learners to construct language for their messages. When learners construct language for expression, they are not merely reproducing what they have learned. Rather they are processing and constructing things. For example, they process syntax read or heard and construct syntax that can be used to express what they wish to convey.

The conception of language output as a way to promote language acquisition is to some extent in line with the so called CONSTRUCTIVISM. A constructivist view of language argues that language (or any knowledge) is socially constructed (Nunan, 1999: 304). Learners learn language by cooperating, negotiating and performing all kinds of tasks. In other words, they construct language in certain social and cultural contexts.

The type of language constructed by second or foreign language learners who are still in the process of learning a language is often referred to as INTERLANGUAGE. Interlanguage is often understood as a language system between the target language and the learner's native language. It is imperfect compared with the target language, but it is not mere translation from the learner's native language either. However, interlanguage should not really be

seen as a bridging language between or a mixture of the target language and native language. Interlanguage is a dynamic language system, which is constantly moving from the departure level to the native-like level. Therefore, "inter" actually means between the beginning stage and the final stage.

Studies on interlanguage can be done in two ways: (1) investigating the psychological, biological or neurological mechanisms involved in the production of interlanguage; (2) investigating the linguistic features of interlanguage. The former type of research has been widely conducted, whereas the latter type has not received due attention. Actually the two kinds of studies are of equal importance. Concerning the linguistic features of interlanguage, the following questions can be asked:

(1) Linguistically, how is interlanguage in general different from the target language or the native language?

(2) In what way is lower level interlanguage different from higher level interlanguage?

(3) How is the interlanguage system used to convey meaning?

Answers to the above questions will certainly benefit language learning research. However, studying interlanguage as it is, we need linguistic analysis frameworks. Obviously researchers interested in this area should have some linguistics background.

11.3 Linguistics and Language Teaching

Virtually all aspects of language teaching can have implications from linguistics. At the macro level, linguistic theories influence our general orientation in approaches to language teaching. For example, the structural linguistic theory views language as a system of structurally related elements for coding of meaning. Accordingly, the target of language teaching is to teach the elements of this system, which are generally defined in terms of phonological units, grammatical units, grammatical operations, and lexical items (Richards and Rodgers, 2001). At the micro level, linguistic knowledge helps teachers to better explain the specific language items they teach. We will mainly discuss the relation between linguistics and language teaching at the macro level.

11.3.1 The Discourse-based View of Language Teaching

The essential point of the discourse-based view of language takes into account the fact that linguistic patterns exist across stretches of text. These

patterns of language extend beyond the words, clauses and sentences, which have been the traditional concern of much language teaching (McCarthy and Carter, 1994:1). The discourse-based view of language focuses on complete spoken and written texts and on the social and cultural contexts in which such language operates. Accordingly, the discourse-based view of language teaching aims at developing discourse competence, which is similar to the well-known concept of communicative competence. COMMUNICATIVE

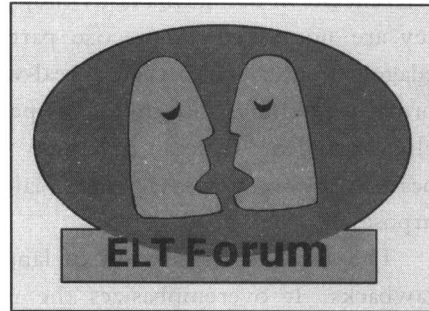
COMPETENCE refers to what a learners knows about how a language

is used in particular situations for effective and appropriate communication. Communicative competence includes knowledge of the grammar and vocabulary, knowledge of rules of speaking, knowledge of how to use and respond to different types of speech acts and social conventions, and knowledge of how to use language appropriately.

It is believed, according to discourse theorists, that language learning will successfully take place when language learners know how and when to use the language in various settings and when they have successfully cognized various forms of competence such as grammatical competence (lexis, morphology, syntax and phonology) and pragmatic competence (e.g., speech acts).

Dwelling on the ideas above, in the case of foreign/second language learning, language learners are encouraged to deal with accomplishing actions, which are thought to help them acquire the target language. The COMMUNICATIVE LANGUAGE TEACHING (CLT) and TASK-BASED LANGUAGE TEACHING (TBLT) are the best known examples of such a theory. In the CLT or TBLT classroom, students are expected to learn by performing tasks.

There are two broad types of tasks: real-world tasks and pedagogical tasks. A real-world task is very close to something we do in daily life or work. For example, students may be asked to work in groups, discuss how the sports facilities in their school can be improved (e.g., buy some new facilities) and make some suggestions to the headmaster. This is a real-world task because there are things like this in the real world. Pedagogical tasks are those activities that students do in the classroom but that may not take place in real life. For example, the students work in pairs. Each is given a picture. Most of the things



in the pictures are the same, but there are some differences. The students are asked to describe their picture to each other and identify the differences. In this task, the students use language to do something, that is, to identify the differences. In doing this task, they focus on meaning rather than form, because they are not asked to practise particular linguistic items. We say this is a pedagogical task rather than a real-world task because in daily life we do not normally do things like this. It is pedagogical in the sense that it is designed to help the students to learn or review certain language knowledge or skills. This does not mean, however, that real-world tasks do not have any pedagogical purposes.

The discourse-based view of language teaching is criticised for a number of drawbacks. It overemphasizes the role of external factors in the process of language acquisition and gives little importance to internal learning processes. It is similar to the behavioristic view of language acquisition in that environmental factors and input are at the very center in attempting to explicate the acquisition process. It overstates the role of knowledge of competence and functions in acquiring a language, and hence fails to notice universal principles that guide language acquisition.

11.3.2 The Universal Grammar and Language Teaching

Among major linguistic theories, Chomsky's Universal Grammar (UG, previously known as Transformation-Generative Grammar, or TG grammar) has gained wider acceptance and popularity. UG attempts to explain the relatively quick acquisition of L1 on the basis of minimum exposure to external input. The view supports the idea that the external input per se may not account for language acquisition.

In Chomsky's view, a native speaker possesses a kind of linguistic competence. The child is born with knowledge of some linguistic universals. While acquiring his mother tongue, he compares his innate language system with that of his native language and modifies his grammar. Therefore, language learning is not a matter of habit formation, but an activity of building and testing hypothesis. As for the construct of a sentence, TG grammar describes it as composed of a deep structure, a surface structure and some transformational rules.

Similarly, the Chomskyan view holds that the input is poor and deficient in two ways. First, the input is claimed to be "degenerate" because it is damaged by performance features such as slips, hesitations or false starts. Accordingly, it is suggested that the input is not an adequate base for language learning. Second, the input is devoid of grammar corrections. This means that the input does not

normally contain “negative evidence”, the knowledge from which the learner could exercise what is “not” possible in a given language.

Although UG was not originally proposed to account for second language acquisition, many researchers are working on its implication for language learning and teaching. Proponents of UG believe that both children and adults utilize similar universal principles when acquiring a language. Cook (2000) devoted a whole volume to accounting for second language acquisition based on Chomsky’s linguistic theory.

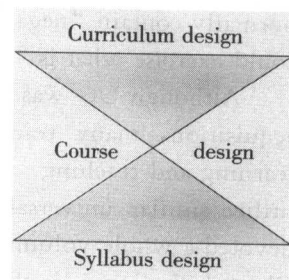
Language teaching theories based on Universal Grammar is not without criticism. It can be said that UG’s particular aim is to account for how language works. Yet UG proponents have to deal with acquisition to account for the language itself. The acquisition part is thus of secondary importance in UG. A second drawback is that UG is only concerned with the core grammar of the English language (syntax) and investigates a number of linguistic universals. And UG researchers neglect the peripheral grammar, that is, language specific rules (i.e., rules of specific languages which cannot be generalized). Thirdly, the primary function of language is communication, but it is discarded in UG. The final and the most significant problem is a methodological one. Due to the fact that Chomsky is concerned only with describing and explaining competence, there can be little likelihood of SLA researchers carrying out empirical research.

In summary, UG has generated valuable predictions about the course of interlanguage and the influence of the first language. Also, it has provided invaluable information regarding L2 teaching as to how L2 teachers (or educational linguists) should present vocabulary items and how they should view grammar. The evidence in support of UG, on the other hand, is not conclusive. If the language module that determines the success in L1 acquisition is proved to be accessible in L2 acquisition, L2 teaching methodologists should study and account for how to trigger this language module and redesign their methodologies. The UG theory should, therefore, be studied in detail so as to endow us with a more educational and pedagogical basis for mother tongue and foreign language teaching.

11.4 Linguistics and Syllabus Design

Syllabus design is of fundamental importance in language teaching. In some sense, syllabus design is a bridge between language teaching theory and language

teaching practice. It translates theoretical understanding of language teaching and sets up an operable framework in which language teaching takes place. The most important part of syllabus design is selecting and sequencing language items. Obviously, the selecting and sequencing of language items should be based on a sound understanding of the language system itself. It is here where linguistics has an important role to play.



11.4.1 A Clarification of Terms: *Syllabus* and *Curriculum*

In the existing literature on language education, the terms CURRICULUM and SYLLABUS are sometimes used interchangeably, sometimes differentiated, and sometimes misused and misunderstood. Likewise, the terms *syllabus design* and *curriculum development* are causing confusion among both researchers and practitioners. There are at least two reasons for this chaotic use of the terms. One reason is that the two terms are used differently in British English and American English. The other is that the concept of curriculum has changed in the past years. Stern (1983) provides an attempt to clarify these two terms:

The term 'curriculum' is commonly used in two related senses. It refers, first, to the substance of a programme of studies of an educational institution or system. Thus, we can speak of the school curriculum, the university curriculum, the curriculum of French Schools, or the curriculum of Soviet education. In a more restricted sense, it refers to the course of study or content in a particular subject, such as the mathematics curriculum or the history curriculum. It is, therefore, used as a synonym of what in British universities and schools is sometimes referred to as the 'syllabus' for a given subject or course of studies. In recent years, however, the term 'curriculum' has come to refer not only to the subject matter or content, but also to the entire instructional process including materials, equipment, examinations, and the training of teachers, in short all pedagogical measures related to schooling or to the substance of a course of studies (p. 434).

Following Stern, Nunan (1988:3) suggests that a curriculum is concerned with making general statements about language learning, learning purpose, and experience, and the relationship between teachers and learners, whereas a syllabus is more localized and is based on the accounts and records of what actually happens at the classroom level as teachers and students apply a curriculum

to their situation.

Rodgers (1989:26, cited in Richards, 2001:39) makes a similar distinction between a syllabus and a curriculum. According to Rodgers, syllabi (or syllabuses), which prescribe the content to be covered by a given course, form only a small part of the total school program. Curriculum is a far broader concept. Curriculum is all those activities in which children engage under the auspices of the school. This includes not only what pupils learn, but how they learn it, how teachers help them learn, using what supporting materials, styles and methods of assessment, and in what kind of facilities.

Since the 1980s the view that curriculum development processes are central elements in language program design has become more widely accepted in language teaching. In many countries, language curriculum development units have been established in ministries of education since the 1980s with a mandate to review and develop national language teaching curriculum based on a curriculum development perspective (Richards, 2001: 41). Consequently, the kind of document that used to be called "syllabus" is now called "curriculum".

In this chapter, syllabus and curriculum are differentiated based on the distinctions outlined above. A syllabus is a specification of what takes place in the classroom, which usually contains the aims and contents of teaching and sometimes contains suggestions of methodology. A curriculum, however, provides (1) general statements about the rationale about language, language learning and language teaching, (2) detailed specification of aims, objectives and targets learning purpose, and (3) implementation of a program. In some sense, a syllabus is part of a curriculum.

Another difference worth note is that syllabus is often used to refer to something similar to a language teaching approach, whereas curriculum refers to a specific document of a language program developed for a particular country or region. Therefore, we can talk about a grammatical syllabus or a task-based syllabus, but we do not have a grammatical curriculum or a task-based curriculum. Based on this distinction, we assume that syllabus design is more of a pedagogical nature, whereas curriculum development is an educational planning issue.

11.4.2 Theoretical Views behind Syllabus Design

In most cases, the process of syllabus design in foreign language teaching mainly includes selecting and grading what is to be taught. A process of selection must be undertaken since learning the whole system of a foreign language is neither possible nor necessary. Selection involves two sub-processes: First, the

restriction of the language to a particular dialect and register; and second, the selection from within the register of the items that are to be taught according to criteria such as frequency of occurrence, learnability and classroom needs. The whole process of selection must be applied at all levels of language, such as phonology, grammar, lexis, contexts (semantic and cultural).

As to what should be selected in the actual process of syllabus design, it to a large extent depends on the syllabus designer's understanding of language. If he or she adheres to a structural view of language, he or she will probably select what he or she sees as the kernel elements of the structural system. If he or she adheres to a functional view of language, he or she will probably select the most frequently occurring functions and notions of language.

After a list of language items have been selected, the next process is to put them into the most appropriate order for practical teaching purposes. This process is often referred to as grading, which is subdivided into two distinct operations. The first is to arrange the items into blocks of the right size for the various years, terms, months, weeks, days and classes of the teaching course; while the second operation deals with the problem of the sequence in which the items in the blocks are to be taught. It is useful to use a separate label to each of these sub-division of the total process of grading, and so we shall use the term 'staging' to refer to the division of the course into time segments, and 'sequencing' to refer to the problem of deciding the order in which the items should be taught.

Such practical matters might appear to have nothing to do with linguistics, but in fact linguistics has important contribution to make here.

In the first place, linguistics provides both the description of a L2 and an understanding of how the components make up the whole of the language system. Secondly, reference back to linguistic categories will ensure that, in the planning of a teaching program, all aspects of language that need to be taught are included. This does not imply that phonology, graphology, lexis, grammar and context need to be taught as separate levels; these are linguistic categories, concepts for the description of language, not teaching procedures.

11.4.3 Types of Syllabus

In theory, a language teaching syllabus can be designed in many different ways, depending on the designers' view of language and view of language learning and teaching. In the past few decades, the grammatical syllabus, the lexical syllabus, the skills syllabus, the functional-notional syllabus, the content syllabus and the task-based syllabus have been proposed and attracted more or less attention. Below is a brief description of some of the influential types

of syllabuses:

(1) The structural syllabus

Influenced by structuralist linguistics, the STRUCTURAL SYLLABUS is a grammar oriented syllabus based on a selection of language items and structures. The vocabulary and grammatical rules included in the teaching materials are carefully ordered according to factors such as frequency, complexity and usefulness.

The underlying assumption behind grammatical syllabuses is that language is a system which consists of a set of grammatical rules; learning language means learning these rules and then applying them to practical language use. The syllabus input is selected and graded according to grammatical notions of simplicity and complexity. These syllabuses introduce one item at a time and require mastery of that item before moving on to the next.

The structural syllabus has been used for many years, and still dominates some language programmes, including most of the foreign language courses in China. However, people have become more and more aware of its shortcomings. The major drawback of such a syllabus is that it concentrates only on the grammatical forms and the meaning of individual words, whereas the meaning of the whole sentence is thought to be self-evident, whatever its context may be. Students are not taught how to use these sentences appropriately in real situations. As a result, students trained by a structural syllabus often prove to be communicatively incompetent.

(2) The situational syllabus

The SITUATIONAL SYLLABUS does not have a strong linguistic basis, yet it can be assumed that the situationists accept the view that language is used for communication. The aim of the situational syllabus is specifying the situations in which the target language is used. The selection and organization of language items are based on situations. Grammatical forms and sentence patterns are introduced and practised, but they are knitted in dialogues entitled "At the Airport", "At the Supermarket", "At the Bank" and so on. In class an AURAL-ORAL TEACHING METHOD is adopted, i. e. ., new materials are heard and spoken before they are read and written by the learners. This method may still be teacher-centred, but compared with the grammar-translation method there is more participation on the learner's part. The teacher can make use of pictures, real objects, and the postures of the participants to involve students in dialogues and role playing.

The situational syllabus has certain advantages over the structural syllabus, for it sets out to meet the learner's direct communicative needs. However, since

the situational syllabus relies on whatever linguistic description is available, and at its time this meant structuralist grammar, such a syllabus is essentially grammatical. Some people regard it as “pseudo-functional”. The situations described in a textbook cannot be truly “authentic”. Moreover, the arrangement of the situations is not systematic.

(3) The communicative syllabus

A COMMUNICATIVE SYLLABUS aims at the learner's communicative competence. Based on a notional-functional syllabus, it teaches the language needed to express and understand different kinds of functions, and emphasizes the process of communication.

Summarizing the previous theories on communicative approach to syllabus design, Yalden (1983) lists ten components of a communicative syllabus:

1. as detailed a consideration as possible of the purposes for which the learners wish to acquire the target language;
2. some idea of the setting in which they will want to use the target language (physical aspects need to be considered, as well as social setting);
3. the socially defined role the learners will assume in the target language, as well as the roles of their interlocutors;
4. The communicative events in which the learners will participate: everyday situations, vocational or professional situations, academic situations, and so on;
5. the language functions involved in these events, or what the learner will need to be able to do with or through the language;
6. the notions involved, or that the learner will need to be able to talk about;
7. the skills involved in the “knitting together” of discourse: discourse and rhetorical skills;
8. the variety or varieties of the target language that will be needed, and the levels in the spoken and written language which the learners will need to reach;
9. the grammatical content that will be needed;
10. the lexical content that will be needed.

It is supposed that these ten components take into account everything required to assure communication. A communicative syllabus should take into consideration most of these factors, if not all. Since which component receives the most emphasis is flexible, there is a variety of communicative syllabus types, from the structural-functional to the fully communicative.

(4) The task-based syllabus

Task-based syllabuses are more concerned with the classroom processes which

stimulate learning than with the language knowledge or skills that students are supposed to master. These syllabuses consist of a list of specification of the tasks and activities that the learners will engage in in class in the target language.

Although TBLT has been around for about two decades, in the existing literature there is virtually no generally accepted definition of *task*. As TBLT evolved and developed, different researchers have defined TASK from different perspectives. One of the early definitions is given by Long (1985). According to Long, a task is "a piece of work undertaken for oneself or for others, freely or for some reward. Thus examples of tasks include painting a fence, dressing a child. In other words, by 'task' is meant the hundred and one things people do in everyday life, 'at work, at play and in between'".

Prabhu (1987) defines a task as an activity which required learners to arrive at an outcome from given information through some process of thought and which allowed teachers to control and regulate that process. According to this definition, when students do a task, they are provided with some information and required to process this information in order to arrive at an outcome. However, it is not clear what kind of outcome the students are supposed to arrive at.

According to Nunan (1989), a task is a piece of classroom work which involves learners in comprehending, manipulating, producing or interacting in the target language while their attention is principally focused on meaning rather than on form.

One obvious difference among these definitions is that for Long, tasks are those things we do in the real world, whereas for Prabhu and Nunan, tasks are the activities we do in the classroom. This is probably the reason why later researchers define two broad kinds of tasks: real-world tasks and pedagogical tasks. Real-world tasks are the one hundred and one things we do in life or work, pedagogical tasks are the things students are asked to do in the classroom.

It is worth noting that these definitions are not contradictory. Rather we think they are supplementary, each emphasizing certain aspects. On the one hand, if we are talking about language learning tasks, they cannot be a hundred percent real. After all, most activities in the classroom are designed with a purpose of learning and practising the language in question. On the other hand, pedagogical tasks can be designed in such a way that they have a varying degree of resemblance to real-world things.

In later definitions, it seems that the distinction between real and non-real features is intentionally blurred, though authenticity is always emphasized as a key feature of tasks. Skehan (1998) describes what a task is like rather than gives

a concise definition. According to Skehan, a task is an activity in which

- meaning is primary,
- learners are not given other people's meaning to regurgitate,
- there is some sort of relationship to comparable real-world activities,
- task completion has some priority, and
- the assessment of the task is in terms of outcomes.

Therefore, anything that is in line with these (or most of these) criteria can be called a task. Thus it can be real, half-real or non-real.

One of the latest definitions available in the literature is given by Bygate, Skehan & Swain (2001). According to these researchers, a task is an activity which requires learners to use language, with emphasis on meaning, to attain an objective. This definition is very close to what Willis (1996) provides, "tasks are always activities where the target language is used by the learner for a communicative purpose (goal) in order to achieve an outcome."

We think with the current understanding of TBLT and its application in practice, either Bygate, Skehan & Swain's definition or Willis's definition can be adopted as a working definition of *task*, the essence of which is that a task is an activity in which students use the target language to do something, usually with a non-linguistic purpose.

As TBLT is still a developing approach of language teaching, some researchers suggest we should set some guidelines or principles for designing tasks rather than sticking to the pursuit of a definite definition and description of task. Below are six principles that the majority of pro-task researchers agree that teachers can follow when design tasks:

- (i) A task should have a clear purpose

When we design a task, we must make it very clear to the students what is the purpose of doing the task. Theoretically speaking, whatever we ask students to do in the classroom, we can always identify a purpose. For example, when we ask students to repeat after the recording, we can say the purpose is to practise speaking (pronunciation, intonation, etc.). When we ask students to fill in the blanks with appropriate forms of the given verbs, the purpose might be to review or consolidate grammatical knowledge about the tenses. However, when we say a task should have a purpose, we mean communicative purposes rather than pure pedagogical purposes. For example, when students perform a task of finding out the favourite food of their classmates through interviews, the purpose is to obtain information about the students' favourite food. Of course, when they do this task, they will make use of certain existing language knowledge and skills and possibly learn some new language. However, for such

a task, we cannot say the purpose is to learn how to ask and answer questions or learn how to describe food. In the classroom, we often ask students to role-play a dialogue printed in the textbook or create a dialogue similar to the one in the textbook. This activity certainly has pedagogical purposes, but it does not have genuine communicative purposes. Therefore, it does not constitute a task, or to be more accurate, a real-world task.

(ii) A task should have some degree of resemblance to real-world events

Ideally tasks that have a fair degree of resemblance to real-world events are more motivating. By resemblance of real-world events, we mean what the students are required to do is similar to something we do in life or work in the real world. For example, if we ask students to listen to a weather forecast of major cities in the country and note the future weather condition in certain (not all) cities, it is a task. It is close to something that many of us actually do in daily life. However, if we ask students do a kind of True or False judgement exercise, then it is not a task, because in daily life, we normally do not listen to weather forecast and make True or False judgement. Similarly, activities such as answering reading comprehension questions by choosing the right answer from A, B, C and D, rewriting a paragraph in the passive voice, putting scrambled sentences back to their original order do not qualify as tasks.

(iii) A task should involve information seeking, processing and conveying

A motivating task should involve information seeking, processing and conveying. In other words, when students perform the task, they need to obtain information, reorganise information and convey information one way or another. For example, when students are doing the task of finding out the favourite food of their classmates through interviews, they need to get information from each student, put the information together and conduct some statistic calculations and then present the results through graphs or tables. In the classroom there are a lot of activities that do not involve information seeking, processing and conveying. For example, when we ask students to role-play a dialogue in the textbook, they just say their lines from their memory or by looking at the book. Each student can say his or her lines even without listening to the other student.

(iv) A task should involve the students in some modes of doing things

When teachers design a task, it is always important to envisage what the students actually do when carrying out the task. Ideally, a task should involve the students in a mode of doing things, by which we mean they must do something which can be observed. Therefore, traditional classroom activities such as "listen carefully and get ready to answer questions" do not qualify as

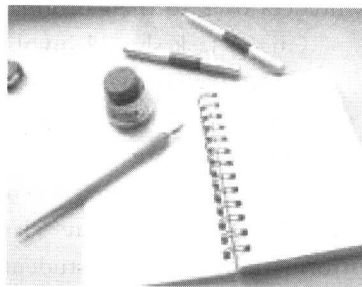
tasks. In these activities, there is no way for the teacher to find out whether the students are listening carefully (the fact that some students are unable to answer the questions does constitute evidence that they have not listened carefully). It is not that teachers do not trust the students. The point is that when students are involved in a kind of overt learning behaviour, they are more likely to be concentrated. Besides, this overt behaviour is an useful indicator of the students' internal learning processes. These traditional classroom activities can be changed into tasks by adding more specific requirements, such as "draw (colour, match) pictures while listening". Of course there are many modes of doing things, such as discussing, taking notes, completing tables or figures, drawing pictures and graphs.

(v) A task should involve the meaning-focused use of language

Despite their different perspectives on TBLT, most pro-task researchers agree a task should require the students to focus on meaning rather than form, by which is meant that the students focus on understanding meaning and conveying meaning rather than manipulating the structures. Let's illustrate this point by looking at a traditional activity:

Writing

A head-teacher is speaking to a teacher in her school: Next week we're going to clean the school as follows: Classroom Building 1 on Monday. Building 2 on Tuesday. The computer room and sound lab on Wednesday. The science labs on Thursday. The library and the Teachers' Rooms on Friday. Please write a notice for the students and put it up. Thank you.



Work with your partner and write a large notice. Start like this:

Classroom Building 1 will be...

In doing this activity, the students simply change the sentences from the active voice to the passive voice. They just represent the meaning in another way. They do not convey any new meaning or meaning of their own. Therefore, this activity does not qualify as a task. If the students are asked to work out their own plan of a thorough cleaning in the school, it will be considered as a task.

(vi) A task should end with a tangible product

Most pro-task researchers and teachers agree that when a task is finished, there should be a final product, ideally a tangible one, such as a report or a graph based on a mini survey, a shopping list based on group discussion, a travel plan,

or a picture drawn based on given information. The final product have several aspects of significance: (1) it indicates the task has (or has not) been completed; (2) it partially indicates how successfully the students have completed the tasks; (3) it can be shared with other groups of students; (4) it can be put in the students' portfolio as learning achievement. Although we emphasize that a task should have a final product, we do not mean TBLT is a product-oriented approach of language teaching. On the contrary, TBLT is a process-oriented approach (Nunan, 1988). It attaches more attention to how students learn than what they learn. It advocates experiential learning by asking students to experience and explore language in the process of using language to do things.

11.4.4 Components of Syllabus

Having decided on the underlying assumptions about language and language teaching, the next thing to do in syllabus design is to decide what to include in the syllabus. Below is a list of possible components of syllabuses.

- Aims/Goals
 - General statements about what must be accomplished by the end of the course.
- Objectives/Targets/requirements
 - Specific statements about what content or skills that students must master in order to attain the goals.
- Non-language outcomes
 - Affect cultivation, such as confidence, motivation, interest
- Learning strategies, thinking skills, interpersonal skills, etc.
 - Cultural understanding
 - Learning contents
 - Knowledge: vocabulary list, grammar items
 - Skills: listening, speaking, reading and writing
 - Functions and notions
 - Topics
 - Culture
- Implementation
 - Approaches/methodologies
 - Teaching principles
 - Teaching suggestions
 - Recommendation of textbooks/materials
- Assessment/Evaluation: Who, what, how and for what purposes
 - Who should carry out assessment/evaluation?

- What should be evaluated?
- How is evaluation best done?
- For what purposes should evaluation be done?

11.4.5 Current Trends in Syllabus Design

Syllabus design has always been influenced by language theories and language teaching theories. Currently syllabus design has the following trends:

(1) **The co-existence of the old and the new.** Although many different types of syllabuses have been brought forth in the past three decades, currently, the traditional syllabuses (e.g., the grammatical syllabus and lexical syllabus) have not been completely abandoned, and the later models (e.g., the content syllabus and the task-based syllabus) have not been universally accepted. For example, though one of the earliest type of syllabus, the grammatical syllabus continues to be used in many parts of the world; and although the task-based is often said to be the latest (newest) type of syllabus, it has been found to be incompatible with many educational context and therefore has not been widely adopted (Richards, 2001; Ellis, 2003).

(2) **The emphasis on the learning process.** Compared with the traditional syllabuses, the later models (e.g., the content syllabus, the procedural syllabus and the task-based syllabus) have attached more importance to the process of language learning than to the product of language learning. These syllabuses are sometimes referred to as process-oriented syllabuses, which focus on the learning experience themselves. This types of syllabuses are often contrasted with the product-oriented syllabuses, which focus on the knowledge and skills which learners should gain as a result of instruction (Nunan, 1988).

(3) **The inclusion of non-linguistic objectives in syllabus.** Compared with traditional syllabuses, the later models usually include a list of non-linguistic objectives, such as learning strategies and affective cultivation. Richards (2001) refers to these objectives as non-language outcomes, which include affect cultivation (such as confidence, motivation and interest), learning strategies, thinking skills, interpersonal skills, and cultural understanding. The underlying assumption behind this trend in syllabus design is that, as a school subject, language education should not merely aim at helping students to masters language knowledge and skills. Rather, it has responsibility in fostering students' whole-person development, which includes not only intellectual development but also affect, cultural understanding and learning strategies.

(4) **The emergence of the multi-syllabus.** Given the fact the none of the existing types of syllabuses is any better than the others, "decisions about a

suitable syllabus framework for a [language] course reflect different priorities in teaching rather than absolute choices. In most courses there will generally be a number of different syllabus strands, such as *grammar* linked to *skills* and *texts*, *tasks* linked to *topics* and *functions*, or *skills* linked to *topics* and *texts*" (Richards, 2001:164, italics original). Therefore, the integrated syllabus came into being, which is also called the multi-syllabus. Designing a multi-syllabus does not mean the simple combination of elements from different types of syllabuses. Rather, it is a matter of choice of priority.

Currently, the practice of adhering to one type of syllabus throughout the language program is rare. Rather syllabus designers tend to resort to multi-syllabus. There are two ways for syllabus designers to do so. First, they can design a multi-syllabus, incorporating features of currently popular syllabuses. Second, they can choose to adopt a different type for the different stages of the program. For example, [a] syllabus might be organized grammatically at the first level and then the grammar presented functionally. Or the first level of organization might be functional with grammar items selected according to the grammatical demands of different functions (Richards, 2001:164).

11.5 Contrastive Analysis and Error Analysis

It is a well-established notion that the native language plays important roles in the course of second language acquisition, though we do not know enough about what roles it actually plays. The study of the roles that the native language plays is known as the research of LANGUAGE TRANSFER, by which is meant the psychological process whereby prior learning is carried over into a new learning situation (Gass and Selinker, 2001:66), or "the influence resulting from the similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired" (Odlin, 2003). For example, the students' learned knowledge and skills in the native language can be transferred to the second or foreign language.

11.5.1 Contrastive Analysis (CA)

CONTRASTIVE ANALYSIS is a way of comparing languages (e.g., L1 and L2) in order to determine potential errors for the ultimate purpose of isolating what needs to be learned and what does not need to be learned in a second language learning situation (Gass and Selinker, 2001: 72). The goal of contrastive analysis is to predict what areas will be easy to learn and what areas

will be difficult to learn. Contrastive Analysis was associated in its early days with behaviourism and structuralism. The main assumptions underlying CA are as follows:

(1) Language is habit and language learning involves the establishment of a new set of habits.

(2) Previously learned L1 interferes with the learning of L2; the major source of error in the production and/or reception of a second language is the native language; the greater the differences between L1 and L2, the more frequent the errors will occur.

(3) Errors in L2 can be accounted for by considering differences between L1 and L2.

(4) Transfer occurs from L1 to L2. An important part of L2 learning is learn the differences. Similarities can be safely ignored as no new learning is involved.

(5) There is a need for careful analyses of similarities and differences between L1 and L2.

(6) Teachers should focus on areas of negative transfer.

Although contrastive analysis helps us to understand language learning and teaching in many ways, it has many problems:

(1) Differences between L1 and L2 can be defined *linguistically*, but difficulties involve *psychological* considerations. Linguistically difficult items may not be psychologically difficult.

(2) There is substantive evidence that CA cannot predict all errors. On the one hand, some predicted errors (based on CA) do not occur. CA would predict that errors are bi-directional, but research has shown this is not the case.

E. g. , English: *I see them*.

French: *Je les vois*.

Research has shown that although English learners of French may say “Je vois les”, French learners of English, however, do not say “I them see” (they say “I see them”). On the other hand, some errors obviously cannot be explained by CA, e. g. :

* *He comed yesterday*.

* *There is one people like golf (in our class)*.

(3) CA fails to predict actual difficulties and some difficulties predicted do not always materialize (Odlin, 2003).

Nowadays in the literature, the term “contrastive analysis” is gradually been replaced by “the study of cross-linguistic influences”.

11.5.2 Error Analysis (EA)

The fact that not all errors are explicable by CA resulted in a disillusionment with contrastive analysis. Gradually CA was replaced by the ERROR ANALYSIS movement (Ellis, 1994), a major claim of which is that many errors made by L2 learners were caused by factors other than L1 interference. Corder in his article "The significance of learners' errors" (1967) claimed that errors are not just to be seen as something to be eradicated, but rather can be important in and of themselves.

In the literature on error analysis, errors and mistakes are often differentiated. Errors usually arise from the learner's lack of knowledge; it represents a lack of competence. In other words, the learner does not know the right form or is unable to use language correctly. Mistakes often occur when learners fail to perform their competence. In other words, the learner has already learned the knowledge or skill but simply fails to function correctly due to lack of attention or other factors.

In terms of the source of errors, errors are often divided into interlingual errors and intralingual errors. Interlingual errors (or transfer errors) occur when the learner misuses an item because it shares features with an item in the native language. For example, the learner utilizes some L1 features (phonological, lexical, grammatical, or pragmatic) rather than that of the target language. Intralingual errors (or developmental errors) are errors within the target language itself, such as OVERGENERALIZATION, which arises when the learner applies a rule in a situation where the rule does not apply.

In terms of the nature of errors, errors often fall into five types: omissions, additions, double markings, misformations and misorderings. Below are the explanations and examples for these five types of errors.

<i>Explanation and example</i>	<i>Type</i>
(1) The absence of an item that must appear in a well-formed utterance; e. g., She sleeping.	Omissions
(2) The presence of an item that must not appear in well-formed utterances; e. g., He is works in a factory nearby.	Additions

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(3) The use of a tense marker twice in one sentence; e. g., We didn't went there.	Double markings
(4) The use of the wrong form of the morpheme or structure; e. g., The dog finished to eat the bones. The dog eated the chicken.	Misformations
(5) The incorrect placement of a morpheme (group) in an utterance; e. g., What John is doing?	Misorderings

The procedure of error analysis consists of the following steps:

(1) Recognition. Dealing with a sentence produced by the language learner, we should first ask whether the sentence is grammatically correct. If the answer is negative, then errors exist. If the answer is positive, then we further check whether the sentence is appropriate in the communicative context. A negative answer indicates a mistake.

(2) Description. If the erroneous sentence is intelligible, we compare it with the correct sentence produced by a native speaker and list the errors and mistakes. If the meaning of the sentence is not clear, we may refer to the learner's native language to find out what he means and carry out a contrastive analysis. Taking into consideration the use of language in social contexts, we can describe mistakes as well as errors.

(3) Explanation. When an error is recognized and described, we attempt to answer the question "Why did the learner commit this error?" In other words, we make hypothesis about the psychological processes which have caused the learner to commit the error. This will lead us to provide answers to a fundamental question "How do people learn language?"

There are some problems with Error Analysis (Gass and Selinker, 2001). Firstly, it is inadequate to rely on errors to study how L2 is learned. We need to consider errors as well as nonerrors to get the entire picture of a learner's linguistic behaviour. Secondly, it is difficult to determine what an error is. For example: *There are so many Taiwan people live around the lake.* We do not know if the error occurs because "who" is omitted after "people" or because "live" is used instead of "living". Thirdly, error analysis over-stresses production data and fails to account for error avoidance (the learner avoids a particular word or structure).

11.6 Corpus Linguistics and Language Teaching

As discussed in Chapter 10, a corpus is a collection of texts input into a

computer. Language corpora make it possible for materials developers to select authentic, natural and typical language. The two most important factors in a corpus are the size and types of texts selected. Usually the uses that will be made of the corpus decide the number and type of texts in a corpus.

11.6.1 Types of Corpora

In terms of function, there are four common types of corpora:

General corpora: A general reference corpus is not a collection of material from different specialist areas technical, dialectal, juvenile, etc. It is a collection of material which is broadly homogenous, but which is gathered from a variety of sources so that the individuality of a source is obscured, unless the researcher isolates a particular text. useful for language research as a whole.

Specialized corpora: This kind of corpus is useful for language for specific purposes. If we need find out what language is used in a certain profession, then we select texts from that profession.

Sample corpora: This is a kind of genre-based corpus. It is a collection of a large number of short extracts randomly selected from all kinds of genres.

Monitor corpora: This kind of corpus is gigantic, ever moving store of text. It has the capacity to hold a state of the language for research purposes.

11.6.2 What Uses Can We Make of Corpora?

The most important use that we can make of corpora is that we can find very useful information about how language is actually used. Corpora usually provide the following types of information:

(1) Frequency information. Corpora can tell us how frequently certain language items or structures are used. This kind of information is useful when we try to select what to teach, select what to focus on, and decide what senses to focus on in the language classroom.

(2) Context and co-text information. Contexts are the situational environments in which language is used. Co-texts are the linguistic environments. Sometimes it is very difficult to tell the differences of two words or phrases which have similar meaning. However, if we look at the context and co-text in which they are used, the difference becomes clear.

(3) Grammatical information. We usually refer to grammar books for grammatical information. However, what the corpora show is far more complicated than what grammar books tell about grammar. For example, information from corpora has shown that conditionals in English are far more

than 3 (first, second and third conditionals).

(4) Collocation and phraseology information. It is usually difficult for second and foreign language learners to learn which words are frequently used together, e. g. should we say *make effort* or *take effort*? A search in corpus will do the job.

(5) Pragmatics information. Information from corpora can tell us how language is actually used in communication. For example, students are often told that if someone says "How do you do?", they should say "How do you do?". Data from corpora show that in this situation there is more than one way to response. For example, we can also say "Nice to meet you."

Improved descriptions of the language made possible by corpus-based research provide a basis for improved pedagogy, both by providing better reference tools (e. g. grammar books and dictionaries), and by enabling better decisions as to which lexical items, senses, and grammatical structures should be included in the syllabus (Sinclair, 1991).

11.7 Summary

Linguistic theories have influenced language teaching decisions at various stages: defining the goals of learning, designing syllabus, organizing the teaching content, determining the methods and approach, setting assessment criteria, and so on. All these stages are connected with each other, and behind any chain of decisions is a certain view of language and language learning. Since the early 1970s, the trends in linguistic theories have pushed applied linguists and language teachers to move towards the communicative end, yet so far little success has been made in the implementation of an ideal model.

Having discussed some applications and implications that linguistic theories have in the field of language teaching, there are two points to which we want to draw our readers' attention. First, language teaching is a very practical business. A good knowledge of linguistic theories does not necessarily make a good language teacher. The teacher on his own part should start from the empirical reality and look for the part of linguistic theories which is applicable and relevant to him. Instead of being carried away by miscellaneous linguistic notions, he must always be aware of the learners' needs. Secondly, linguistics is not the only theoretical field which has impact on language teaching practice. Other studies such as pedagogy and psychology also exert strong influences. The theoretical background of teaching methodology, for example, is often largely a

psychological one. Therefore, linguistics has to be placed appropriately in relation to other theoretical fields.

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Theories and Schools of Modern Linguistics

12.0 Introduction

Modern linguistics began from the Swiss linguist Ferdinand de Saussure (1857—1913), who is often described as “father of modern linguistics” and “a master of a discipline which he made modern” (Culler, 1976: 7).

From 1907 to 1911, Saussure lectured on general linguistics in the University of Geneva. After he died in 1913, his colleagues and students thought that his ideas concerning linguistic questions were original and insightful and should be preserved. Two of his students, C. Bally and A. Sechehaye, collected lecture notes and put them together to produce the great work, *Course in General Linguistics*, in 1916. This book became the most important source of Saussure’s ideas and of his influence upon succeeding generations of linguists.



Saussure’s ideas were developed along three lines: linguistics, sociology, and psychology. In linguistics, he was greatly influenced by the American linguist W. D. Whitney (1827—1894), who was working within essentially the Neogrammarian tradition but raised the question of the sign. By insisting on the concept of ARBITRARINESS of the sign to emphasise that language is an institution, Whitney brought linguistics onto the right track. Following the French sociologist E. Durkheim (1858—1917), Saussure held that language is one of the “social facts”, which are ideas in the “collective mind” of a society and radically distinct from individual psychological acts. What matters is not the way in which a certain thinker individually conceives an institution, but the group’s conception of it. Since this conception alone is socially significant, the lack of physical or psychological basis for doing or not doing anything does not

prevent it from being real. In psychology, Saussure was influenced by the Austrian psychiatrist S. Freud (1856—1939), who hypothesized the continuity of a collective psyche, called the unconscious. From the splendid example of Oedipus Complex, it was shown that a single act may continue to exercise profound effects on humanity. Ideas from these different academic sources form useful ways of explaining how certain systems can be simultaneously unknown yet effectively present. If a description of any system counts as the analysis of what is being observed, it is because the system is something not immediately present but seemed to be always present and at work in any human behaviour.

Saussure saw human language as an extremely complex and heterogeneous phenomenon. Confronted with various aspects of language and different perspectives from which one might approach them, the linguist must ask himself what he is trying to describe. Saussure believed that language is a SYSTEM OF SIGNS. Sounds count as language only when they serve to express or communicate ideas; otherwise they are nothing but noise. To communicate ideas, they must be part of a system of conventions, part of a system of signs. This sign is the union of a form and an idea, which Saussure called the SIGNIFIER and the SIGNIFIED. Though we may speak of the signifier and the signified as if they were separate entities, they exist only as components of the sign. The sign is the central fact of language, and therefore in trying to separate what is essential from what is secondary or incidental we must start from the nature of the sign itself.

Many people believe that Saussure was also influenced by Western economic theories of the time. His linguistic theories on the nature of the linguistic sign, *LANGUE* vs. *PAROLE*, SYNTAGMATIC vs. PARADIGMATIC, and SYNCHRONIC vs. DIACHRONIC, can find their traces in the economic theories of European economists. By calling economics the science of studying VALUES, Saussure held that both linguistics and economics were sciences of studying values. His serial dichotomies and preferences on one over the other in developing theories of language brought linguistics onto a scientific road. This actually concerns the classical relationship in most western philosophies between ABSENCE and PRESENCE, which is a distinction between virtual worlds and actual worlds. For Saussure, *langue* is “absence” in the virtual world and *parole* is “presence” in the actual world. Absence/virtual systems are considered stable and invariable, while presence/actual systems are considered unstable and variable. By designing and building models of virtual systems or *langue*, one is not principally concerned with actual systems of *parole*, or what people actually say or what appears on the page, but the structures of a system that gives the

potential for the words or utterances to exist. This principle is the key to understanding part of the fundamental philosophy of structuralism and its consequence for the academic inquiries in the twentieth century.

Saussure exerted two kinds of influence on modern linguistics. First, he provided a general orientation, a sense of the task of linguistics which had seldom been questioned. Second, he influenced modern linguistics in the specific concepts. Many of the developments of modern linguistics can be described as his concepts, i. e. his idea of the arbitrary nature of the sign, *langue* vs. *parole*, synchrony vs. diachrony, syntagmatic and paradigmatic relations, etc. Saussure's fundamental perception is of revolutionary significance, and it is he that pushed linguistics into a brand new stage and all linguistics in the twentieth century are Saussurean linguistics.

12.1 The Prague School

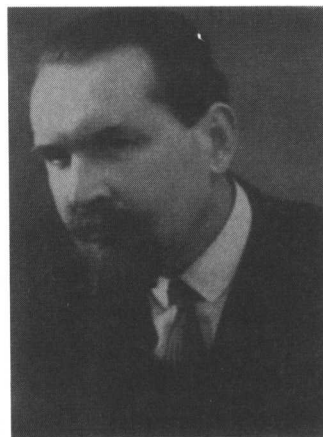
12.1.1 Introduction

The Prague School can be traced back to its first meeting under the leadership of V. Mathesius (1882--1946) in 1926. This school practised a special style of synchronic linguistics, and its most important contribution to linguistics is that it sees language in terms of function. It has been stated that "No other European group has wielded quite as much influence as this one", and the school "has influenced every important development in the United States" (Bolinger, 1968).

Of the many ideas developed in the Prague School, three points are of special importance. First, it was stressed that the synchronic study of language is fully justified as it can draw on complete and controllable material for investigation but no rigid theoretical barrier is erected to separate diachronic study. Second, there was an emphasis on the systemic character of language. It was argued that no element of any language can be satisfactorily analysed or evaluated if viewed in isolation; assessment can only be made if its relationship is established with the coexisting elements in the same language system. In other words, elements are held to be in functional contrast or opposition. Third, language was looked on as functional in another sense, that is, as a tool performing a number of essential functions or tasks for the community using it.

12.1.2 Phonology and Phonological Oppositions

The Prague School is best known and remembered for its contribution to phonology and the distinction between phonetics and phonology. The most influential scholar in this connection is Trubetzkoy, whose most complete and authoritative statements of principle are formulated in his *Principles of Phonology* (1939). Following Saussure's distinction between *langue* and *parole*, Trubetzkoy argued that phonetics belonged to *parole* whereas phonology belonged to *langue*. On this basis he developed the notion of "phoneme" as an abstract unit of the sound system as distinct from the sounds actually produced. A PHONEME may be defined as the sum of the differential functions. Sounds may be phonemes in so far as they can serve to distinguish meaning.



In classifying distinctive features, Trubetzkoy proposed three criteria: (1) their relation to the whole contrastive system; (2) relations between the opposing elements; and (3) their power of discrimination. These OPPOSITIONS can be summarised as follows:

- (a) Bilateral opposition: If the features which two phonemes share belong only to them, they are bilateral opposition; In other words, the features they have in common do not occur simultaneously in any other phoneme. /p/ and /b/ share the feature of "bilabial".
- (b) Multilateral opposition: a more loosely established relationship: /a/ and /i/ for instance are alike only to the extent that both are vowels, a quality shared by any other pairs of vowels.
- (c) Proportional opposition: Two phonemes are proportional if the same contrastive features also serve as the differentiating criterion for other pairs of phonemes. For example, sonority (voiced/voiceless) is the contrastive feature between not only /p/ and /b/, but also between /t/ and /d/, and /k/ and /g/.
- (d) Isolated opposition: If the contrastive feature is unique to the pair, that is, it is not a contrastive feature of any other pairs of phonemes in the language, then the phonemes are in isolated opposition. For example, in English, /v/ and /l/, the former is labial-dental fricative, the latter is lateral voiced. And in German, /t/ and /x/—a dental stop and a velar fricative.

- (c) Privative opposition: One member of a contrastive pair may be characterised by the presence of a certain feature, the other by its absence: aspiration vs. lack of aspiration as between /p/ and /b/, nasalisation vs. lack of nasalisation as between /m/ and /b/, and so on.
- (f) Gradual opposition: If the pairs share different degrees of a feature, their relation is gradual opposition. In a language with seven-vowel system:

i	u
e	o
ɛ	ɔ
α	

the relation between /u/ and /o/ is gradual, for sharing the same feature of tongue height (of the vowel) is a third vowel /ɔ/.

- (g) Equipollent opposition: If the pair is not in gradual opposition, nor in privative opposition, they are logically equipollent. For example, /t/ and /p/, /t/ and /k/ in English.
- (h) Neutralisable opposition: the opposition occurs when two sounds contrast in some positions but not in others. English /p/ and /b/ do not contrast after /s/. In German, the voiced consonants at the end-position become voiceless: *Rat* (persuade) and *Rad* (wheel) are pronounced the same way, but in their plurals /t/ and /d/ are in opposition.
- (i) Constant opposition: The pair of sounds occurs in all possible positions without neutralising effect. For example, in Nupe, a language spoken in Nigeria, the normal phonological structure is a consonant followed by a vowel, except in very few cases. The opposition between /t/ and /d/ is constant in all positions for consonants.

Trubetzkoy's contributions to phonological theory concern four aspects. First, he showed distinctive functions of speech sounds and gave an accurate definition for the phoneme. Second, by making distinctions between phonetics and phonology, and between stylistic phonology and phonology, he defined the sphere of phonological studies. Third, by studying the syntagmatic and paradigmatic relations between phonemes, he revealed the interdependent relations between phonemes. Finally, he put forward a set of methodologies for phonological studies, such as the method of extracting phonemes and the method of studying phonological combinations.

12.1.3 Functional Sentence Perspective (FSP)

FUNCTIONAL SENTENCE PERSPECTIVE (FSP) is a theory of

linguistic analysis which refers to an analysis of utterances (or texts) in terms of the information they contain. The principle is that the role of each utterance part is evaluated for its semantic contribution to the whole.

Some Czech linguists devoted considerable attention to problems of analysing sentences from a functional point of view. They believe that a sentence contains a point of departure and a goal of discourse. The point of departure is equally present to the speaker and to the hearer—it is the ground on which they meet and is called the THEME. The goal of discourse presents the very information that is to be imparted to the hearer, and is called the RHEME. It is believed that the movement from the Theme to the Rheme reveals the movement of the mind itself. Language may use different syntactic structures, but the order of ideas remains basically the same. Based on these observations, they created the notion of Functional Sentence Perspective (FSP) to describe how information is distributed in sentences. FSP deals particularly with the effect of the distribution of known (or given) information and new information in discourse. The known information refers to information that is not new to the reader or hearer. The new information is what is to be transmitted to the reader or hearer. As we can see, the Subject-Predicate distinction is not always the same as the Theme-Rheme contrast. For example,

Ex. 12 – 1

- | | | |
|-----|----------------------------|----------------------------|
| (a) | <u>Sally</u> | <u>stands on the table</u> |
| | Subject | Predicate |
| | Theme | Rheme |
| (b) | <u>On the table stands</u> | <u>Sally</u> |
| | Predicate | Subject |
| | Theme | Rheme |

Sally is the grammatical subject in both sentences, but the Theme in (a) and the Rheme in (b).

In research into the relation between structure and function, J. Firbas developed the notion of COMMUNICATIVE DYNAMISM (CD), based on the fact that linguistic communication is not a static phenomenon, but a dynamic one. CD is meant to measure the amount of information an element carries in a sentence. The degree of CD is the effect contributed by a linguistic element, for it “pushes the communication forward”. Thus if examined in its non-marked use, the sentence *He was cross* could be interpreted in regard to the degree of CD as follows: The lowest degree of CD is carried by *He*, and the highest is carried by *cross*, the degree carried by *was* ranking between them.

Any element—sentence, phrase, word, morpheme—may be singled out in

order to establish a sharp contrast, as in “*John **was** reading the newspaper*”. The stressed *was* indicates it is the information that is to be imparted, in opposition to the present tense, and that all other elements are given information. Under this circumstance, the only element conveying new information has significant semantic content, whereas all the other elements conveying known information are determined by the context. Consequently these contextually dependent elements carry the lowest degree of CD. Strictly speaking, contextual dependence or independence is determined by the very purpose of the communication. Thus in the sentence *John has gone up to the window, the window* may not be known from the preceding context, but since the purpose of the communication is the expression of the direction of the movement, *the window* necessarily appears contextually independent. A contextually independent object (e.g. *I have read **a nice book***) will carry a higher degree of CD than the finite verb. This is because the object expresses an essential amplification of the verb and is therefore more important. Similarly, a contextually independent adverbial element of place will have a higher degree of CD than a verb expressing motion, as in *He was hurrying **to the railway station***. This is because the adverbial element indicates the direction of the motion and is therefore more important than the motion itself.

Normally the subject carries a lower degree of CD than the finite verb and/or the object and/or adverbial, provided that either the verb or the object and/or adverbial do not depend on the context. This is because an agent expressed by the subject appears to be communicatively less important than an unknown action expressed by the finite verb and/or an unknown goal (expressed by the object or the adverbial element of place). For example, in *A man **broke into the house and stole all the money***, the ultimate purpose of the communication is to state the actions and/or their goals, not the agent (*A man*). However, if the subject is accompanied by a verb expressing “existence or appearance on the scene” and is contextually independent, then the subject will carry the highest degree of CD. This is because an unknown person or thing appearing on the scene is communicatively more important than the act of appearing and the scene itself, e.g. ***An old man** appeared in the waiting room at five o’clock*. If the subject is contextually dependent, a contextually independent adverbial of time or place becomes an important local and temporal specification, carrying greater degree of CD than both the subject and the finite verb, e.g. *The old man was sitting **in the waiting room***.

In all the structures exemplified above, the semantic contents and relations contribute to the degree of CD and they are not directly related to the positions

the elements occupy within the linear arrangement. However, not all semantic contents and relations are capable of signalling degrees of CD in the same way. For example, a contextually independent infinitive of purpose carries a lower degree of CD in *He went to Prague to see his friend* but a higher degree of CD in *In order to see his friend, he went to Prague*. Similarly, with the direct and indirect objects, if they are contextually independent, the one coming later within the linear arrangement carries a higher degree of CD, as in *He gave a boy an apple* and *He gave an apple to a boy*.

Firbas defined FSP as “the distribution of various degrees of CD”. This can be explained as: the initial elements of a sequence carry the lowest degree of CD, and with each step forward, the degree of CD becomes incremental till the element that carries the highest. However, there are often exceptions to the Theme-Transition-Rheme sequence, and sometimes the distributional field may be entirely contextually independent (e. g. *A girl broke a vase*), so the Theme may not always be contextually dependent. Contextually dependent elements are always thematic. On the other hand, non-thematic elements do not always depend on the context, and not every contextually independent element is non-thematic.

12.2 The London School

The man who turned linguistics proper into a recognised distinct academic subject in Britain was J. R. Firth (1890—1960), the first Professor of General Linguistics in Great Britain in 1944. The majority of university teachers of linguistics in Britain were trained under Firth and their work reflected Firth’s ideas.

Firth was influenced by the anthropologist B. Malinowski (1884—1942). In turn, he influenced his student, the well-known linguist M. A. K. Halliday. The three men all stressed the importance of context of situation and the system aspect of language. Thus, London School is also known as systemic linguistics and functional linguistics.

12.2.1 Malinowski's Theories

Malinowski was Professor of Anthropology at the London School of Economics from 1927 onwards. The most important aspect of his theorising, as distinct from his purely ethnographic work, concerned the functioning of



language. For Malinowski, to think of language as a "means of transfusing ideas from the head of the speaker to that of the listener" was a misleading myth. He said that language "is to be regarded as a mode of action, rather than as a counterpart of thought". According to him, the meaning of an utterance does not come from the ideas of the words comprising it but from its relation to the situational context in which the utterance occurs.

Malinowski's assertion is based on two observations. First, in primitive communities there is no writing, and language has only one type of use. Second, in all societies, children learn their languages in this way. He imagined that, for children, a name for a person or object that bears it has certain magic powers. Children act with the aid of sounds, and people around them respond or react to the sounds.

Malinowski believed that utterances and situation are bound up inextricably with each other and the context of situation is indispensable for the understanding of the words. There is no way to characterise the meaning of utterances on the basis of internal considerations about the language alone. The meaning of spoken utterances could always be determined by the context of situation. He distinguished three types of context of situation: (1) situations in which speech interrelates with bodily activity; (2) narrative situations; and (3) situations in which speech is used to fill a speech vacuum—PHATIC COMMUNION.

By the first type of situation Malinowski meant that the meaning of a word is not given by the physical properties of its referent, but by its functions. When a savage learns the meaning of a word, the process is not accompanied by explanation but by learning to handle it. Likewise, a verb, a word for an action, receives its meaning through an active participation in this action. For the second type, Malinowski further distinguished "the situation of the moment of narration" and "the situation referred to by the narrative". The first case is "made up of the respective social, intellectual and emotional attitudes of those present", and the second case derives its meaning from the context referred to (as

in a fairy tale). Malinowski believed that although there is no relationship between the meaning of narration and the situation in which language is used, narration can change the hearer's social attitudes and emotions. The third refers to cases of "language used in free, aimless, social intercourse". Such use of language is not the least related to human activities, and its meaning cannot possibly come from situations in which language is used, but from the "atmosphere of sociability and the fact of the personal communion of these people". For example, the function of a polite utterance has nothing to do with the meaning of the words in it. Malinowski called such utterances "phatic communion".

In his *Coral Gardens and Their Magic* (1935), Malinowski developed his theories on meaning and put forward two points. First, he prescribed the data for linguistic studies, holding that isolated words are only imagined linguistic facts, and they are the products of advanced analytical procedures of linguistics. According to him, the real linguistic data are the complete utterances in actual uses of language. The second point is that when a certain sound is used in two different situations, it cannot be called one word, but two words having the same sound, or homonyms. He said that in order to assign meaning to a sound, one has to study the situations in which it is used.

12.2.2 Firth's Theories

While Firth inherited the tradition by taking up some of Saussure's and Malinowski's views, he developed their theories and put forward his own original points of view. Influenced by Malinowski, Firth regarded language as a social process, as a means of social life, rather than simply as a set of agreed-upon semiotics and signs. He held that in order to live, human beings have to learn, and learning language is a means of participation in social activities. Language is a means of doing things and of making others do things. It is a means of acting and living.

Firth did not see language as something wholly inborn or utterly acquired. He seemed to adopt a riding-on-the-wall attitude, seeing language as something both inborn and acquired. Thus he insisted that the object of linguistic study is language in actual use. And the goal of linguistic inquiry is to analyse meaningful elements of language in order to establish corresponding relations between linguistic and non-linguistic elements. The method of linguistic study is to decide on the composite elements of language, explain their relations on various levels, and ultimately explicate the internal relations between these elements and human activities in the environment of language use. That is to

say, Firth attempted to integrate linguistic studies with sociological studies; because human beings are inseparable from cultural values, and language is an important part of cultural values, linguistics can help reveal the social nature of human beings.

Firth held that meaning is use, thus defining meaning as the relationship between an element at any level and its context on that level. According to his theorising, the meaning of any sentence consists of five parts: (1) the relationship of each phoneme to its phonological context; (2) the relationship of each lexical item to the others in the sentence; (3) the morphological relations of each word; (4) the sentence type of which the given sentence is an example; and (5) the relationship of the sentence to its context of situation.

Accordingly, there are five levels of analysis: (1) phonological; (2) lexical and semantic; (3) morphological; (4) syntactic; and (5) context of situation. By analysing the positions of sounds in relation to other sounds on the first level, one can find out the phonological functions. Analyses on the lexical and semantic level aim not only to explain the REFERENTIAL meaning but also the COLLOCATIVE meaning. For example, one of the meanings of *night* comes from its collocation with *dark*, and one of the meanings of *dark* comes from its collocation with *night*. On the morphological level, inflections are studied, and on the syntactic level, the syntagmatic relationship of grammatical categories, or COLLIGATION, is studied. Such a relationship is realized by combining elements of language, for example, *We study linguistics*. On the level of the context of situation, non-linguistic elements such as objects, behaviour, and events, together with the effects of linguistic behaviour are studied. Firth said that this kind of study makes no distinction between words and ideas. And by doing this, we can explain why certain utterances are used in certain contexts of situation, and we can therefore equate "use" and "meaning". By CONTEXT OF SITUATION, Firth meant a series of contexts of situation, each smaller one being embedded into a larger, to the extent that all the contexts of situation play essential parts in the whole of the context of culture.

Firth's own study focused on the context of situation as Malinowski did. He defined the context of situation as including the entire cultural setting of speech and the personal history of the participants rather than as simply the context of human activity going on at the moment. Recognising that sentences are infinitely various, he used the notion of "typical context of situation" so that some generalisations can be made about it. By a typical context of situation, he meant that social situations determine the social roles participants are obliged to play; since the total number of typical contexts of situation they will encounter is

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finite, the total number of social roles is also finite. For this reason, he said "Conversation is much more of a roughly prescribed ritual than most people think. Once someone speaks to you, you are in a relatively determined context and you are not free just to say what you please." Semantics is then defined as the classification of utterances of a language into the typical contexts of situation for which they might be appropriate.

Firth made more specific and more detailed contextual analyses. He put forward the idea that in analysing a typical context of situation, one has to take into consideration both the SITUATIONAL CONTEXT and the LINGUISTIC CONTEXT of a text:

- (1) The internal relations of the text itself
 - (a) the syntagmatic relations between the elements in the structure;
 - (b) the paradigmatic relations between units in the system.
- (2) The internal relations of the context of situation
 - (a) the relations between text and non-linguistic elements, and the general effects;
 - (b) the analytical relations between words, parts of words, phrases and the special elements of the context of situation

Firth also listed a model in his *Papers in Linguistics* (1957) that covers both the situational context and the linguistic context of a text:

- (1) the relevant features of the participants: persons, personalities
 - (a) the verbal action of the participants
 - (b) the non-verbal action of the participants
- (2) the relevant topics, including objects, events, and non-linguistic, non-human events
- (3) the effects of the verbal action.

Firth's second important contribution to linguistics is his method of PROSODIC ANALYSIS, called PROSODIC PHONOLOGY, put forward in a paper presented at London Philological Society in 1948. The term "prosody" has a special meaning. Since any human utterance is a continuous speech flow made up of at least one syllable, it cannot be cut into independent units. In order to analyse the functions on various levels, mere phonetic and phonological descriptions are insufficient. Phonological description only deals with paradigmatic relations, leaving syntagmatic relations out of consideration. Firth pointed out that in actual speech, it is not phonemes that make up the paradigmatic relations, but PHONEMATIC UNITS. There are fewer features in phonematic units than in phonemes, because some features are common to phonemes of a syllable or a phrase (even a sentence). When these features are

considered in syntagmatic relations, they are all called prosodic units.

Firth did not define prosodic units. However, his discussion indicates that prosodic units include such features as stress, length, nasalisation, palatalisation, and aspiration. In any case, these features cannot be found in one phonematic unit alone.

An emphasis on POLYSYSTEMIC analysis does not mean a neglect of structural analysis. Firth actually attached great importance to syntagmatic relations. He held that the basic unit in analysing speech is not word, but text, text in particular contexts of situation. Dissecting text into levels is only for the sake of analysis. It does not matter much which level should be analysed first, since levels are abstracted from text. However, whichever level we analyse, we should analyse the prosodic units of the text.

Prosodic analysis and phonemic analysis both consider basically the same phonological facts. However, prosodic analysis is advantageous in categorising data and revealing the relations between linguistic data. It can discover more units on various levels and attempts to explicate the interrelationships between units on these levels.

12.2.3 Halliday and Systemic-Functional Grammar

M. A. K. Halliday (1925—) has developed the ideas stemming from Firth's theories in the London School. His Systemic-Functional (SF) Grammar is a sociologically oriented functional linguistic approach and one of the most influential linguistic theories in the twentieth century, having great effect on various disciplines related to language, such as language teaching, sociolinguistics, discourse analysis, stylistics, and machine translation.



Halliday got his BA in Chinese language and literature at London University in 1947. From 1947 to 1949 he studied under the supervision of Luo Changpei at Peking University. From 1949 to 1950 he studied at Lingnan University in Guangzhou, tutored by Wang Li. Then he worked for his Ph.D. degree under the supervision of Firth. In 1955, he finished his doctoral dissertation "The Language of the Chinese Secret History of the Mongols", on his studies of the work written in a northern Chinese dialect in the 14th century. From 1955 onwards, he taught linguistics at a number of

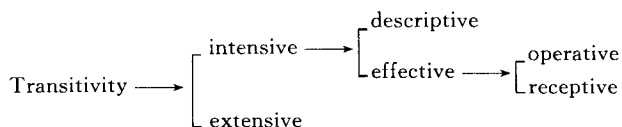
universities in Britain and America. In 1975, he moved to Australia and founded the Department of Linguistics at the University of Sydney, working there till his retirement in 1988.

Systemic-Functional Grammar has two components: SYSTEMIC GRAMMAR and FUNCTIONAL GRAMMAR. They are two inseparable parts for an integral framework of linguistic theory. Systemic grammar aims to explain the internal relations in language as a system network, or meaning potential. And this network consists of subsystems from which language users make choices. Functional grammar aims to reveal that language is a means of social interaction, based on the position that language system and the forms that make it up are inescapably determined by the uses or functions which they serve.

Systemic-Functional Grammar is based on two facts: (1) language users are actually making choices in a system of systems and trying to realise different semantic functions in social interaction; and (2) language is inseparable from social activities of man. Thus, it takes actual uses of language as the object of study, in opposition to Chomsky's TG Grammar that takes the ideal speaker's linguistic competence as the object of study.

(1) Systemic Grammar

According to Firth, a system is a set of mutually exclusive options that come into play at some point in a linguistic structure. Like Firthian phonology, it is primarily concerned with the nature and import of the various choices which one makes (consciously or unconsciously) in deciding to utter one particular sentence out of the infinitely numerous sentences that one's language makes available. The central component of a systemic grammar is a chart of the full set of choices available in constructing a sentence, with a specification of the relationships between choices. For example, Halliday suggests that one system of choices operating in English main clauses, TRANSITIVITY, provides a choice between "intensive" and "extensive". If the intensive option is chosen, a choice comes into play between "descriptive" and "effective"; if "effective" is chosen, there is a further opposition between "operative" and "receptive".

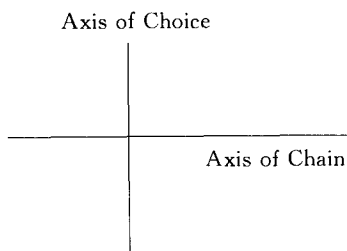


Halliday's Systemic Grammar is different from other linguistic theories in the following aspects. Firstly, it attaches great importance to the sociological aspects of language. Secondly, it views language as a form of doing rather than a

form of knowing. It distinguishes linguistic behaviour potential from actual linguistic behaviour. Thirdly, it gives a relatively high priority to description of the characteristics of particular languages and particular varieties of languages. Fourthly, it explains a number of aspects of language in terms of clines (i. e. ungrammatical → more unusual → less unusual → less usual → grammatical). Fifthly, it seeks verification of its hypotheses by means of observation from texts and by means of statistical techniques. Lastly, it has as its centre the category of the system.

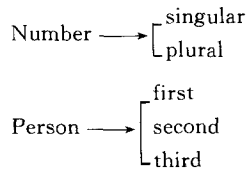
In Systemic Grammar, the notion of system is made a central explanatory principle, the whole of language being conceived as a “system of systems”. Systemic Grammar is concerned with establishing a network of systems of relationships, which accounts for all the semantically relevant choices in the language as a whole.

On a very general level, there is the **AXIS OF CHOICE** and the **AXIS OF CHAIN**:



The dimension along which the utterance sequence occurs is the axis of chain; the basic patterns along the vertical line form the axis of choice. The axis of chain represents syntagmatic relations; the axis of choice represents paradigmatic relations. Associated with the axis of choice is the concept of contrast. If it were not for its contrasts, language would not be able to work at all. The axis of chain deals with the surface aspects of grammar, such as sentence structures, linguistic units, and their ranks (sentence, clause, group, word, and morpheme). The axis of choice deals with the meaning aspects of grammar, such as system and delicacy.

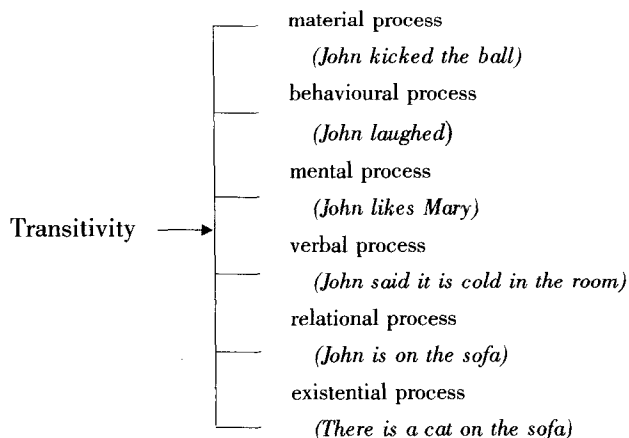
The **SYSTEM** is a list of choices that are available in the grammar of a language. The number system in English, for example, contains two choices: singular and plural. The person system offers three choices: first person, second person, and third person. Examples are:

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There are also systems of gender, tense, and mood, etc. A system is a list of things between which it is possible to choose. So they are meanings, which the grammar can distinguish. The items in a system are called options. And the items of a particular system have something in common, belonging to the same area of meaning. For instance, singular and plural are distinct, but they both have to do with number. All systems have three essential characteristics. Firstly, the terms in a system are mutually exclusive. The selection of one of the terms precludes the selection of any of the others. Secondly, a system is finite. It is possible to fix a limit for a system and to say that it consists of a certain countable number of terms, no more, and no less. Thirdly, the meaning of each term in a system depends on the meaning of the other terms in the system. If the meaning of one term is changed, the meaning of other terms will also change.

In a system network, what appears on the left of the arrow belongs to entry conditions. First, the terms in a system must have a common area of meaning for a much more precise distinction to be made between things. For example, the negative and the plural are different, but the difference between them is not so sharply defined as the difference between the negative and the positive, or between singular and plural. Second, they must have a common grammatical environment. Third, the terms must indicate the right kind of units applicable to the system (that is, if it is a clause or a phrase that is needed). Fourth, systems often provide entry conditions for each other. In many cases it is possible to make a choice from a system only if certain other choices from other systems have been made. For example, we have to choose from the finite and the non-finite before we can choose from the system of mood.

In English, we make choices between different types of process, participants, and circumstances. They are known collectively as the transitivity choices. We first divide the choices into six kinds:

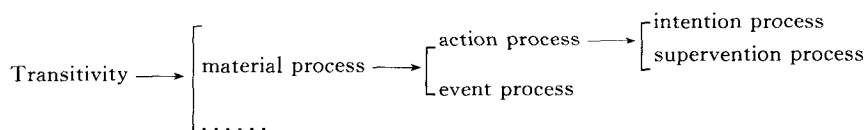


And then we distinguish two types of material processes: action process (*John kicked the ball*) and event process (*The train left five minutes ago*). Then the action process can be further distinguished into other kinds. Within mental process, there is first the distinction between internalised process (*I like it*) and externalised process (*It puzzled everybody*).

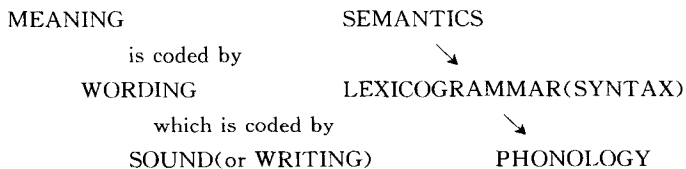
There is another kind of relationship possible between systems, that of SIMULTANEITY. A system is simultaneous with another system if it is independent of the other system but has the same entry conditions as the other system. When two systems are simultaneous, their terms can combine freely; and a term from one system can combine with any term from the other system.

There can be many more other systems in English, and the notion of a systemic grammar is that we take a general area of meaning and gradually break it into smaller and smaller sub-areas. In each stage, we are gradually making finer and finer distinctions in meaning, making more delicate distinctions.

Delicacy refers to the dimension which recognises increasing depth of detail. We can arrange systems on a scale according to the fineness of the distinction. This scale is called SCALE OF DELICACY. For example,



When meanings are expressed, people are intentionally making choices in the system network. On this basis, choice is meaning. Halliday believes that there are realisation relationships between various levels. The choice of meaning (on the semantic level) is realised by the choice of the “form” (on the level of lexicogrammar); the choice of the “form” is realised by the choice of “substance” on the phonological level. In other words, “what can be done” is realised by “what is meant to be done”; “what is meant to be done” is realised by “what can be said”. In this view, we can regard language as a multi-level code system, in which one sub-system is embedded in another. For example.



In Systemic Grammar, the relations of realisation are represented by an arrow “↘”.

(2) Functional Grammar

Halliday’s Systemic Grammar contains a functional component (Halliday, 1985/1994/2004), that is, “the interpretation of the grammatical patterns in terms of configurations of functions”. Since he sees these functions as particularly relevant to the analysis of text (by which he means “everything that is said or written”), Halliday defines a functional grammar as “essentially a ‘natural’ grammar, in the sense that everything in it can be explained, ultimately, by reference to how language is used” (1994: xiii). Halliday believes that language is what it is because it has to serve certain functions. In other words, social demand on language has helped to shape its structure. He interprets language development from a functional point of view and formulates a functional theory of language.

Halliday views language development in children as “the mastery of linguistic functions”, and “learning a language is learning how to mean”. So he proposes seven functions in children’s model of language: (1) the instrumental function; (2) the regulatory function; (3) the interactional function; (4) the personal function; (5) the heuristic function; (6) the imaginative function; and (7) the informative function.

According to Halliday, the adult’s language becomes much more complex and it has to serve many more functions, and the original functional range of the child’s language is gradually reduced to a set of highly coded and abstract

functions, which are meta-functions: the ideational, the interpersonal, and the textual functions. These meta-functions appear at a new level in the linguistic system, taking the form of "grammar". The grammatical system has, as it were, a functional input and a structural output; it provides the mechanism for different functions to be combined in one utterance in the way the adult requires.

(i) The Ideational Function

The IDEATIONAL FUNCTION ("EXPERIENTIAL" and "LOGICAL") is to convey new information, to communicate a content that is unknown to the hearer. Present in all language uses, the ideational function is a meaning potential, because whatever specific use one is making of language he has to refer to categories of his experience of the world.

The ideational function mainly consists of "transitivity" and "voice". This function not only specifies the available options in meaning but also determines the nature of their structural realisations. For example, *John built a new house* can be analysed as a configuration of the function roles:

Actor: *John*

Process; Material; Creation: *built*

Goal; Affected: *a new house*

Here the Actor, Process, Goal, and their subcategories reflect our understanding of phenomena that come within our experience. The notions of Actor, Process and the like make sense only if we assume an ideational function in order to satisfy some theory of linguistic functions; an analysis in something like these terms is necessary if we are to explain the structure of clauses. The clause is a structural unit, and it is the one by which we express a particular range of ideational meanings, our experience of process, the process of the external world, both concrete and abstract, and the processes of our own consciousness, seeing, liking, thinking, talking and so on.

Transitivity is simply the grammar of the clause in its ideational aspect.

Material processes are those in which something is done. These processes are expressed by an action verb (e.g. *beat, break, kick*), an Actor (logical subject) and the Goal of the action (logical direct object, usually a noun or a pronoun).

Mental processes express such mental phenomena as "perception" (*see, look*), "reaction" (*like, please*) and "cognition" (*know, believe, convince*). A mental process involves two participants, Senser and Phenomenon.

Relational processes can be classified into two types: Attributive and Identifying. The former expresses what attributes a certain object has, or what type it belongs to, for example, *Sara is wise*. The latter expresses the identical

properties of two entities, for example, *Tom is the leader*; *The leader is Tom*. These two relations can be further classified into Intensive, Circumstantial, and Possessive.

Type \ Mode	(i) Attributive	(ii) Identifying
(1) Intensive	Sara is wise	Tom is the leader; the leader is Tom
(2) Circumstantial	the fair is on a Tuesday	tomorrow is the 10th; the 10th is tomorrow
(3) Possessive	Peter has a piano	the piano is Peter's; Peter's is the piano

Verbal processes are those of exchanging information. Commonly used verbs are *say*, *tell*, *talk*, *praise*, *boast*, *describe*, etc. In these processes the main participants are Sayer, Receiver, and Verbiage.

Behavioural processes refer to physiological and psychological behaviour such as breathing, coughing, smiling, laughing, crying, staring, and dreaming, etc. Generally only one participant, Behaver, often a human, is involved in this kind of processes, much like the Mental Process. Behavioural Process may sometimes be hardly distinguished from a Material Process that has only one participant. This depends on whether the activity concerned is physiological or psychological. When Behavioural Process has two participants, we may take it as Material Process, for example, *Mary kissed John*.

Existential processes represent that something exists or happens. In every Existential Process, there is an Existent. For example,

Ex. 12-2

There is a new office building at the end of the road.

Does life exist on Mars?

Along the street there comes the bus.

(2) The Interpersonal Function

The INTERPERSONAL FUNCTION embodies all uses of language to express social and personal relations. This includes the various ways the speaker enters a speech situation and performs a speech act. Because the clause is not confined to the expression of transitivity, there are non-ideational elements in the adult language system.

Interpersonal function is realised by MOOD and MODALITY. Mood shows what role the speaker selects in the speech situation and what role he assigns to the addressee. If the speaker selects the imperative mood, he assumes the role of one

giving commands and puts the addressee in the role of one expected to obey orders. Modality specifies if the speaker is expressing his judgement or making a prediction. For example, *Give me that teapot!*

Mood is made up of two parts: the "Subject" and the "Finite" element. The subject can be a noun, a noun phrase, or a clause. For example,

Ex. 12-3

To argue with the captain is asking for trouble.

Ignoring the problem will not make your work easier.

Finite elements are tense morphemes, auxiliary verbs and modal verbs that express tense or modality, and they are part of the verb phrase. In the above examples, *is* and *will* are finite elements.

Residue refers to the rest of the clause. It has three functional elements: the "Predicator", "Complement", and "Adjunct". The usual order in an English clause is "Predicator ^ Complement ^ Adjunct". However, when the Adjunct and the Complement serve as the marked theme (at the beginning) of a clause, they still belong to the part of Residue. For example,

that teapot	the duke	has	given	to my aunt last year
Adjunct	Subject	Finite	Predicator	Adjunct
Residue	Mood		Residue	

According to Halliday, of the various speech roles, two are the most basic: giving and taking. In interpersonal communications, the commodities exchanged can also fall into two kinds: goods-&-services and information. Thus, speech roles and commodities exchanged make up four principal speech roles: offer, command, statement, and question.

Rôle in exchange	Commodity exchanged	
	(a) goods-&-services	(b) information
(i) giving	"offer" Would you like this teapot?	"statement" He's giving her the teapot
(ii) demanding	"command" Give me that teapot!	"question" What is he giving her?

(From Halliday, 1994: 69)

When the two variables are taken together, they define the four primary speech functions of offer, command, statement and question. These, in turn, are matched by a set of desired responses: accepting an offer, carrying out a

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command, acknowledging a statement and answering a question, as are in the following table of "Speech Functions and Responses":

		initiation	expected response	discretionary alternative
give	goods-&-services	offer	acceptance	rejection
demand	goods-&-services	command	undertaking	refusal
give	information	statement	acknowledgement	contradiction
demand	information	question	answer	disclaimer

(From Halliday, 1994: 69)

(3) The Textual Function

The TEXTUAL FUNCTION refers to the fact that language has mechanisms to make any stretch of spoken or written discourse into a coherent and unified text and make a living passage different from a random list of sentences. Although two sentences may have exactly the same ideational and interpersonal functions, they may be different in terms of textual coherence.

The textual function fulfils the requirement that language should be operationally relevant, having texture in a real context of situation that distinguishes a living passage from a mere entry in a grammar book or a dictionary. It provides the remaining strands of meaning potential to be woven into the fabric of linguistic structure. For example, if we compare the two sets of sentences:

Ex. 12 - 4

- (1) *Mary had a very bad cold last week. Mary went to the doctor. The doctor said there was nothing serious. The doctor gave Mary some medicine. The doctor told Mary to take a rest for a few days. Mary took some medicine. Mary took the doctor's advice. Mary got better on the third day. Mary started to work on the third day.*
- (2) *Mary had a very bad cold last week **and** went to the doctor. The doctor said there was nothing serious, gave **her** some medicine, **and** told **her** to take a rest for a few days. **She** took **the** medicine **and** **his** advice, got better on the third day, **and** started to work **right away**.*

The second set of sentences reads much like a coherent and unified text than the first. The two sets are exactly alike in their ideational and interpersonal components, but differ only in their textual component. The first ignored the fact that certain items recur and treats each occurrence of each item as if it were the first occurrence of the item. The second avoids repetitions of structures with *and*; uses the definite article *the* and pronouns *his* and *her* with nouns that have

occurred previously; and avoids repeating *Mary* with *she* and the phrase *on the third day* with *right away*. Binding devices such as these are known collectively as the COHESION of a text.

The textual function can also highlight certain parts of the text. For example, in

Ex. 12-5

Authority I respect, but *authoritarianism* I deplore.

both *authority* and *authoritarianism* are highlighted. Each of these items is acting as a complement. In each case, the complement has been placed in front of its subject and predicator, a position which is comparatively unusual for it, and therefore attention is drawn to it.

According to Halliday, a clause is the simultaneous realisation of ideational, interpersonal, and textual meanings. For example,

Ideational <i>Material Process</i> <i>Action/passive</i>	This house	was built	by John Smith	
	Goal; Affected	Process; Material Action	Actor; Agent Animate	
Interpersonal <i>Declarative</i>	Mood		Residue	
	Subject	Finite	Predicator	Adjunct
Textual <i>Unmarked Theme</i>	Theme	Rheme		
	Given			New

Because language serves as a generalised ideational function, we are able to use it for all the specific purposes and types of context which involve the communication of experience. Because it serves a generalised interpersonal function, we are able to use it for the specific forms of personal expression and social interaction. And a prerequisite to its effective operation under both these headings what we have referred to as the textual function, whereby language becomes text, is related to itself and to its contexts of use. Without the textual component of meaning, we should be unable to make any use of language at all.

If we want to pursue this line of interpretation further, we shall have to go outside language to some theory of social meanings. The most important work in this field is that of Bernstein, whose theories of cultural transmission and social change are unique in this respect, that language is built into them as an essential element in social processes.

12.3 American Structuralism

AMERICAN STRUCTURALISM is a branch of SYNCHRONIC LINGUISTICS that emerged independently in the United States at the beginning of the twentieth century. It developed in a very different style from that of Europe, under the leadership of the anthropologist F. Boas (1858—1942).

While linguistics in Europe started more than two thousand years ago, linguistics in America started at the end of the nineteenth century. While traditional grammar played a dominating role in Europe, it had little influence in America. While many European languages had their own historical traditions and cultures, English was the dominating language in America, where there was no such a tradition as in Europe. In addition, the pioneer scholars who took an interest in linguistics in America were anthropologists, who found that the indigenous languages of the American Indians were dying out rapidly and they felt the urgent need to record these languages before they died out. Because there was no written record of these languages, when the last speaker of a language dies, the language can be said to have perished. However, these languages were characterised by features of vast diversity and differences which are rarely found in other parts of the world. There are probably well over one thousand American Indian languages grouped into 150 families. It is said that in California alone there are more languages than in the whole of Europe.

12.3.1 Early Period: Boas and Sapir

Specialised in the anthropology of North America, Boas worked as organiser of a survey of the many indigenous languages of America north of Mexico. The result of the survey was the book *Handbook of American Indian Languages* (1911). Boas wrote several chapters for the book and an important introduction, which is still a good summary of the descriptive approach to language. Boas trained the men who investigated other languages.

Boas was a self-taught linguist, having never received any formal training in linguistics. This lack of professional qualification was in fact an advantage rather than a hindrance to his work. Unlike the Europeans who stressed the universals of language, Boas held that there was no ideal type or form of languages, for human



languages were endlessly diverse. Although the structure of a language in some primitive tribe might sound very arbitrary and irrational, there was no basis of truth in such a judgement, because European languages would appear just as irrational to a member of that tribe. Boas was strongly opposed to the view that language is the soul of a race, and he proved that the structure and form of a language has nothing to do with the evolution of a race and the development of a culture. Because of historical reasons, people in the same race may have started using different languages, the same language can be used by different races, and speakers of languages of the same family can belong to quite different cultures. Thus, there were only differences in language structure, while there is no difference between languages in terms of being more or less reasonable or advanced.

In the Introduction to his *Handbook*, Boas discussed the framework of descriptive linguistics. He held that such descriptions consist of three parts: the sound of languages, the semantic categories of linguistic expression, and the process of grammatical combination in semantic expression. Boas noticed that every language has its own system of sounds and its own grammatical system. He held that the important task for linguists is to discover, for each language under study, its own particular grammatical structure and to develop descriptive categories appropriate to it. His methodology in processing linguistic data of American Indian languages is analytical, without comparing them with such languages as English or Latin. Starting from an anthropological view, Boas regarded linguistics as part of anthropology and failed to establish linguistics as an independent branch of science. But his basic theory, his observation, and his descriptive methods paved the way for American descriptive linguistics and influenced generations of linguists.



Like Boas, Sapir (1884—1939) was an eminent anthropological linguist. Before meeting Boas in New York, Sapir was pursuing his Master's degree in Germanic studies and felt confident that he understood the nature of language quite well. After meeting Boas, Sapir said he felt as though he had everything to learn. As a result, Sapir undertook the description of American Indian languages after Boas's method, using a native informant in his own cultural surroundings. This is a novel experience for Sapir and radical departure

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from the traditional practice of trying to impose the grammatical categories of Indo-European languages upon all other languages. His idea on language and thought was later developed by his student, B. L. Whorf (1897—1941), and is known as the Sapir-Whorf Hypothesis. (See Chapter 7)

Sapir's work is best summed up in his *Language: An Introduction to the Study of Speech* (1921). He started from an anthropological viewpoint to describe the nature of language and its development, with his main focus on typology. The aim of the book is to "give a certain perspective on the subject of language rather than to assemble facts about it. It has little to say of the ultimate psychological basis of speech and gives only enough of the actual descriptive or historical facts of particular languages to illustrate principles. Its main purpose is to show what I conceive language to be, what is its variability in place and time, and what are its relations to other fundamental human interest—the problem of thought, the nature of the historical process, race, culture, art". He defines language as "a purely human and non-instinctive method of communicating ideas, emotions and desires by means of a system of voluntarily produced symbols". He also compares speech with walking, saying that walking is "an inherent, biological function of men", and it is "a general human activity that varies only in circumscribed limits as we pass from individual to individual", and its variability is "involuntary and purposeless". His *Language* deals with a wide range of problems, such as the elements of speech, the sounds of language, form in language, grammatical process, grammatical concepts, types of linguistic structure, and historical changes.

In discussing the relations between speech and meaning, Sapir holds that the association of speech and meaning is a relation that may be, but need not be, present. In discussing the relation between language and thought, Sapir holds that although they are intimately related, they are not to be considered the same. Language is the means, and thought is the end product; without language, thought is impossible.

Sapir also noticed the universal features of language. He says that all human races and tribes, no matter how barbaric or underdeveloped, have their own languages. In spite of the formal differences, their basic frameworks (distinct phonetic systems, concrete combinations of sound and meaning, and various means of representing all kinds of relations, etc.) are highly developed. Language is the oldest human legacy, and no other aspects of any culture can be earlier than its language. Without language, there is no culture.

12.3.2 Bloomfield's Theory

The principal representative of American descriptive linguistics is L. Bloomfield (1887—1949). He is such a landmark figure in the history of American linguistics that the period between 1933 and 1950 is known as Bloomfieldian Era, in which American descriptive linguistics formally came into being and reached its prime development.



Bloomfield's *Language* (1933) was once held as the model of scientific methodology and the greatest work in linguistics on both sides of the Atlantic in the twentieth century. For Bloomfield, linguistics is a branch of psychology, and specifically of the positivistic brand of psychology known as BEHAVIOURISM. Behaviourism is a principle of scientific method, based on the belief that human beings cannot know anything they have not experienced. Behaviourism in linguistics holds that children learn language through a chain of "STIMULUS-RESPONSE reinforcement", and the adult's use of language is also a process of stimulus-response. When the behaviourist methodology entered linguistics via Bloomfield's writings, the popular practice in linguistic studies was to accept what a native speaker *says* in his language and to discard what he *says about* it. This is because of the belief that a linguistic description was reliable when based on observation of unstudied utterances by speakers; it was unreliable if the analyst had resorted to asking speakers questions such as "Can you say... in your language?"

Bloomfield exemplified his process of stimulus-response theory in an interesting way. Suppose a boy and his girlfriend are taking a walk. The girl is hungry and sees some apples on the tree. She makes some sounds and the boy jumps over the fence, climbs up the tree, picks an apple, gives it to the girl, and the girl eats it. This series of acts can be divided into the act of speech and the practical event. And the story can be divided into three parts: (1) the practical event prior to the act of speech; (2) speech; and (3) the practical event after the act of speech. In (1), the girl's hunger, the sight of apples on the tree, and her relationship with the boy constitute the speaker's stimulus. In (3), the boy's practical acts are called the hearer's reaction. The result of the girl's act of speech is that she has got an apple without her having to get it from the tree. Thus, Bloomfield's first principle is: **when one individual is stimulated, his speech can**

make another individual react accordingly. Individuals in a society vary in their abilities, but as long as someone is able to climb trees or to catch fish, other people in the community will have apples and fish. Thus, Bloomfield's second principle is: **the division of labour and all human activities based on the division of labour are dependent on language.** Finally, the girl's articulation is speech reaction to external stimulus (hunger). When the sound waves reach the boy's ears, the ears stimulate his nerves and he hears the girl's speech. This is the stimulus to the boy. This shows that humans react to two kinds of stimuli, practical stimulus and speech stimulus. Thus, Bloomfield's third principle is: **the distance between the speaker and hearer, two separate nervous systems, is bridged up by sound waves.** From this, Bloomfield put forward the well known formula:

$$S \rightarrow r \dots\dots\dots s \rightarrow R$$

Here **S** stands for practical stimulus, **r** stands for the substitute reaction of speech, **s** stands for the substitute stimulus, and **R** stands for external practical reaction.

Bloomfield also touched upon the application of linguistics to language teaching and criticised traditional grammar. He pointed out that the eighteenth- and nineteenth-century grammarians were mostly laying down rules about what English should be like. In fact, all variations are genuine English. He asserted that traditional grammarians, who were mostly prescriptive, intended to prescribe linguistic categories by borrowing concepts from philosophy, and therefore dogmatic. Thus, in language teaching, instead of paying too much attention to graphetic forms, we should give priority to the teaching of pronunciation. Concerning the popular practice of foreign language teaching in America, he said that learning a language involves constant practice and repetition in real situations rather than merely teaching language learners grammatical theories; traditional practice, being sometimes confusing and far from being economical, cannot help the learners much.

As a textbook, Bloomfield's *Language* started American structuralism as a school of thought. Over half a century ago, Bloch (1949: 92) wrote,

It is not too much to say that every significant refinement of analytic method produced . . . has come as a direct result of the impetus given to linguistic research by Bloomfield's book. If today our methods in descriptive analysis are in some ways better than his, if we see more clearly than he did himself certain aspects of the structure that he first revealed to us, it is because we stand upon his shoulders.

12.3.3 Post-Bloomfieldian Linguistics

Influenced by Bloomfield's *Language*, American linguists such as Z. S. Harris (1909—1992), C. Hockett (1916—2000), G. Trager, H. L. Smith, A. Hill, and R. Hall further developed structuralism, characterised by a strict empiricism. With the advent of the electronic computer in the 1950s, some linguists came to feel that an appropriate goal for general linguistics was to devise explicit discovery procedures to enable the computer to process raw data about any language and form a complete grammar without intervention by the human linguist. Therefore, post-Bloomfieldian linguistics focused on direct observation: a grammar is discovered through the performing of certain operations on a corpus of data, i. e. through discovery procedures. The corpus of data consists of speech, so the operation has to start from a phonological analysis of the stream of sounds as phonemes. Since phonemes form a variety of types of structures, they can be grouped into minimal recurrent sequences, or morphs, which are the members of the same morphemes. Based on the discovery of morphemes of the language, the task of the linguist is to discover how the morphemes may be combined in order to write a grammar. The post-Bloomfieldian linguists also took an interest in the discourse level in order to develop discovery procedures for structure above the sentence level.

Harris's *Methods in Structural Linguistics* (1951) is generally taken as marking the maturity of American descriptive linguistics. In this book, Harris gave the fullest and most interesting expression of the DISCOVERY PROCEDURE approach to linguistics, characterised by accurate analytical procedures and high degree of formalisation. The Italian linguist G. C. Lepschy regarded this book as the symbol and turning point of "Post-Bloomfieldian Linguistics" (Lepschy, 1970:120).

Harris formulated a set of strict descriptive procedures which took the logic of distributional relations as the basis of structural analysis. However, Harris has also been criticised. Some have pointed out that Harris's theory is circular: units are derived from distribution, which depends on environments, which are made up of units. Others have criticised Harris's extreme attitude toward meaning, saying that while Harris tried to do without meaning, actually he depended heavily on meaning. Whatever criticisms there may be, Harris's method as one of the many possible ones of description is of great significance.

Hockett was both a linguist and anthropologist. In addition to his contributions to phonemic, morphemic and grammatical analysis and to general linguistics and its relationship with other disciplines, he offered a stimulating and spirited defence of his

structuralist views while questioning many of the basic and often seemingly unchallenged assumptions underlying transformational grammar.

Hockett's *A Course in Modern Linguistics* (1958) is a well-known textbook in the American descriptive tradition. It contains and develops many of the insights gained from the work carried out within the structuralist paradigm from the 1930s onwards. In its Preface, Hockett says that the book is intended to be a textbook for college readers in linguistics. While he did not run after any "school" of linguistics, evidence of his being influenced by American linguistics, especially by Bloomfield, can be found on every page.

The most significant figure in continuing the structuralist tradition may be K. Pike (1912–2000), who and his followers have a special name for their technique of linguistic analysis—TAGMEMICS.

For Pike, a language has its own hierarchical systems independent of meaning. Not only are there hierarchies in language, but everything in the world is hierarchical, consisting of different layers in the system from small to big, from bottom to top, from simple to complex, from part to whole. Thus, all languages have three interrelated hierarchies: phonological, grammatical, and referential. On each level of the three hierarchies, there are four linguistic units having the four following features: Slot, Class, Role, and Cohesion. These basic units are called grammatical units, or tagmemes. Generally speaking, the slot specifies whether a certain TAGMEME is in the position of the Nucleus or of the Margin in the structure. The Slot can be a subject slot, a predicate slot, object slot, and additive slot. The class tells what the linguistic entity is in the position of Slot, such as suffix, noun, noun phrase, verb root, etc. It shows the functions of the tagmeme concerned in the structure, such as actor, undergoer, benefitee, associated agent, scope, time, etc. The COHESION shows whether a certain tagmeme is dominating other tagmemes or is dominated by others. The formula is

Tagmeme =	Slot	Class(es)
	Role	Cohesion

Each of the four components in the diagram is called a cell. Some tagmemes are obligatory and are marked by "+", while optional tagmemes are marked by "–". With this formula or four-cell notation, a verb can be represented as:

V = +	Nuc(lear)	VRt (verb root)
	Pred(icate)	–

$$V = \pm \frac{\text{Mar(gin)}}{\text{Tm (time)}} \quad \left| \quad \frac{\text{TsSuf (Time Suffix)}}{\text{Tm} >}\right.$$

The ultimate aim of tagmemics is to provide a theory which integrates lexical, grammatical, and phonological information. This theory is based on the assumption that there are various relations in language, and these relations can be analysed into different units. However, to believe that language is part of human behaviour, one needs to recognise that language cannot be strictly formalised. Since no representational system can account for all the relevant facts of language, tagmemics accepts various different modes of representation for different purposes, and does not insist that there is only one correct grammar or linguistic theory.

Last but not least, starting from the late 1950s, Sydney M. Lamb developed his theory in a model consisting of three levels, or STRATA: phoneme, morpheme, and MORPHOPHONEME. This laid the foundation for his stratificational grammar. Like Hjelmslev, Lamb regards language not in terms of the elements that comprise it but rather as a system of relationships, holding that while the system of relationships are not directly observable, the linguist has to observe the manifestations of linguistic structure as they actually occur. From analysing such data, the linguist must try to construct a representation of the system of relationships which underlie it. Lamb (1966: 3) says that linguistic analysis can perhaps best be understood as a process of simplifying. It is a process that involves both simplification and generalisation. For example, as in algebra,

$$abc + abd + abe + abf + abg$$

can be reduced to

$$ab(c + d + e + f + g).$$

The latter expression is simpler than the former and it contains a generalisation not present there. So the linguist can do similar things as a student of algebra does. For example,

blueberry, cranberry

can be reduced to

$$\left. \begin{array}{l} \text{blue} \\ \text{cran} \end{array} \right\} \text{berry}$$

Elements and entities are only what they are by virtue of the relationships that they support. Lamb claims that language, by its nature, relates sound to meaning, and vice versa, and while the relationship is complex it can be seen as series of connected stratal systems or strata. Each stratal system has its own rules

of combination within the stratum and the different strata are interconnected on the basis of realisation.

Among various strata, the four principal ones are the sememic, lexemic, morphemic, and the phonemic, from top to bottom. And every item of each stratum is composed of smaller “-on” units: “semon”, “lexon”, “morphon”, and “phonon”. For example, in English the lexeme ^L/understand/ is composed of two lexons: ^{LN}/under/ and ^{LN}/stand/, and the lexeme ^L/stand/ is composed of a single lexon: ^{LN}/stand/. A morpheme like ^M/under/ is composed of four morphons: ^{MN}/ʌ/, ^{MN}/n/, ^{MN}/d/, and ^{MN}/ə/. A phoneme like ^P/m/ consists of two phonons: ^P/Ns/ and ^P/Lb/.^① In many cases, a unit on a higher stratum can only be realised by a unit on a lower stratum. For example, the four morphons in the morpheme ^M/under/ (^{MN}/ʌ/, ^{MN}/n/, ^{MN}/d/, and ^{MN}/ə/) can only be realised by the four phonons: ^P/ʌ/, ^P/n/, ^P/d/, and ^P/ə/.

Stratificational Grammar connects all kinds of relations on the strata with nodes and lines, making language analysis into a relational network stitched by nodes and lines. The various relations in a language are realised by three patterns in the relational network: the alternation pattern, the tactic pattern, and the sign pattern.

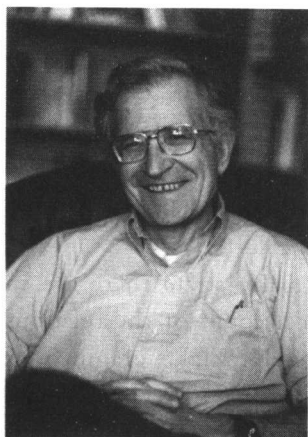
Although Lamb himself might not be sure how many strata there are in language, stratificational analysis seems to give a better account of the relations between sound and meaning. While other theories tend to take grammar as abstraction from the analysis of linguistic phenomena, paying virtually no attention to human mind, Lamb's theory aims to know about the language system in the human mind. Thus, he named his theory as COGNITIVE STRATIFICATIONAL THEORY. Later on, as the term “cognition” became popular, Lamb distinguished his theory with the term NEUROCOGNITIVE LINGUISTICS, in 1998.

To summarize, structuralism is based on the assumption that grammatical categories should be defined not in terms of meaning but in terms of distribution, and that the structure of each language should be described without reference to the alleged universality of such categories as tense, mood and parts of speech. Firstly, structural grammar describes everything that is found in a language instead of laying down rules. However, its aim is confined to the description of languages, without explaining why language operates the way it does. Secondly, structural grammar is empirical, aiming at objectivity in the

① Ns=nasal; Lb=labial; Hi=high; Vo=vocalic

sense that all definitions and statements should be verifiable or refutable. However, it has produced almost no complete grammars comparable to any comprehensive traditional grammars. Thirdly, structural grammar examines all languages, recognising and doing justice to the uniqueness of each language. But it does not give an adequate treatment of meaning. Lastly, structural grammar describes even the smallest contrasts that underlie any construction or use of a language, not only those discoverable in some particular use.

12.4 Transformational-Generative Grammar



In the late 1950s, A. N. Chomsky (1928—), a student of Hebrew with the structuralist methodology, tried to open up a new route when he found that the classification of structural elements of language according to distribution and arrangement had its limitations. From this practice Chomsky gradually established the well-known Transformational-Generative (TG) grammar. The publication of his *Syntactic Structures* (1957) marked the beginning of the Chomskyan Revolution.

From its birth to the present day, TG Grammar has seen five stages of development. The Classical Theory aims to make linguistics a science. The Standard Theory deals with how semantics should be studied in a linguistics theory. The Extended Standard Theory focuses discussion on language universals and universal grammar. The Revised Extended Standard Theory (or GB) focuses discussion on government and binding. The latest is the Minimalist Program, a further revision of the previous theory.

12.4.1 The Innateness Hypothesis

Chomsky believes that language is somewhat innate, and that children are born with what he calls a LANGUAGE ACQUISITION DEVICE (LAD), which is a unique kind of knowledge that fits them for language learning. He argues that children are born with knowledge of the basic grammatical relations and categories, and this knowledge is universal. And the study of language can throw some light on the nature of the human mind. This approach to language is a reaction against behaviourism in psychology and empiricism in philosophy,

making linguistics a branch of psychology.

Chomsky's INNATENESS HYPOTHESIS is based on his observations that some important facts can never be otherwise explained adequately. First, children learn their native language very fast and with little effort. Considering the fact that small children are not yet intellectually mature for any other sciences, this is surprisingly fast. The first language acquisition invariably takes place without formal and explicit instructions; The input is degenerate data, but the output is a perfect language system. Second, children learn their mother tongue in very different environments. They may be good at different things, but in their first language acquisition, their difference is amazingly small. Third, the child learns the total grammar of the language during a limited period of time, from limited exposure to speech. He can not only produce and understand sentences he has heard, but also sentences he has never heard before. What he learns seems to be a set of rules rather than individual sentences. All these suggest that although babies are not born knowing a language, they are born with a predisposition to develop a language in much the same way as they are born with a predisposition to learn to walk.

But this is not the whole picture yet. Chomsky argues that LAD probably consists of three elements: a hypothesis-maker, linguistic universal, and an evaluation procedure. Children are born into many different speech communities and, with equal ease, can pick up the language of the community they happen to be born into. He looks for regularities in the speech around him, then makes guesses on the basis of more linguistic data and makes more hypotheses. To do all this, the child needs the hypothesis-maker in LAD. However, there are times when two or more hypotheses cover the same set of linguistic facts, but one of them is simpler and better. In other words, there may be several grammars that can account for the data the child is exposed to. How is it that the child always chooses the better hypothesis or the better version of grammar? Chomsky suggests that to cope with the problem, the child must be equipped with an evaluation procedure, which will allow him to choose between a number of possible grammars.

12.4.2 What Is a Generative Grammar?

By a GENERATIVE GRAMMAR, Chomsky simply means "a system of rules that in some explicit and well-defined way assigns structural descriptions to sentences". He believes that "every speaker of a language has mastered and internalised a generative grammar that expresses his knowledge of his language." "Thus a generative grammar attempts to specify what the speaker actually knows,

not what he may report about his knowledge" (Chomsky, 1965:8).

A generative grammar is not limited to particular languages, but to reveal the unity of particular grammars and universal grammars. It does not describe one language as an end, but as a means to explore the universal rules in the hope of revealing human cognitive systems and the essential nature of human beings.

In order to reach this ultimate goal, Chomsky puts forward three different levels to evaluate grammars on. They are the OBSERVATIONAL ADEQUACY level, the DESCRIPTIVE ADEQUACY level, and the EXPLANATORY ADEQUACY level. On the first level, grammars are able to produce correct explanations for raw linguistic data. On the second level, grammars should not only produce correct explanations for raw linguistic data, but also produce correct explanations for the linguistic competence of the speaker and hearer. On the third, and the highest level, grammars that are sufficiently described should reveal linguistic competence and then relate it with universal grammars in order to be related to the initial state of the human mind for the purpose of revealing human cognitive systems. It is after successful descriptions of many languages and subsequent generalisations of universal features of human language that it is possible to explore the initial state of the human mind that contains universal grammars. In a sense, the way a linguist does his work is just contrary to the way a child learns his native language. While a child develops his particular grammar from a universal grammar, a linguist tries to discover a universal grammar from particular grammars.

Contrary to Bloomfield's data-oriented discovery procedure, Chomsky insists on the HYPOTHESIS-DEDUCTION method and his research is called evaluation process. Chomsky holds that while structuralist grammarians' IC analysis can reveal some of the structural features, it is seriously defective. For example, IC analysis cannot appropriately explain the difference between *John is easy to please* and *John is eager to please*, between the two interpretations of *Visiting relatives can be tiresome*, and between *John saw Mary* and *Mary was seen by John*. The process of transforming *John saw Mary* into *Mary was seen by John* can be represented algebraically as:

$$NP_1 + Aux + V + NP_2 \rightarrow NP_2 + Aux + be + en + V + NP_1$$

Thus, TG method can not only describe the surface structure of a sentence, but also interpret the internal grammatical relationships within a sentence, getting closer to the truth of language than IC analysis.

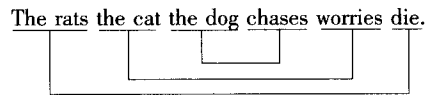
12.4.3 The Classical Theory

In the Classical Theory, Chomsky's aim is to make linguistics a science.

This theory is characterised by three features: (1) emphasis on generative ability of language; (2) introduction of transformational rules; and (3) grammatical description regardless of meaning. The main ideas can be found in Chomsky's *Syntactic Structures* (1957).

Chomsky puts forward three kinds of grammar: finite state grammar, phrase structure grammar, and transformational grammar.

A finite state grammar is the simplest type of grammar which, with a finite amount of apparatus, can generate an infinite number of sentences. But they are all very simple in their structure. We can prove its inadequacy by considering tested dependency:



And there are even more complex sentences than this. English is not a finite-state language. It is impossible to construct an observationally adequate English grammar which is a finite-state grammar. The point of Chomsky's devising such a grammar is to show the impracticality of organising language from a left-to-right order, and such a process is not feasible in studying natural languages. While this theory is appropriate to describe the "Stimulus-Response" process of learning, it is inappropriate to explain the complexities of the human cognitive system. So Chomsky believes that it is necessary to work out a grammar that, with a finite set of rules, can generate all the grammatical sentences in a language without generating a single non-grammatical sentence. Then a grammar is seen as a system of finite rules generating an infinite number of sentences, and the rules must meet the following requirements:

- (1) Generative; the rules must automatically generate sentences;
- (2) Simple; the rules must be represented by symbols and formulae;
- (3) Explicit; everything must be stated precisely, leaving nothing to chance;
- (4) Exhaustive; the rules should cover all linguistic facts, leaving nothing uncovered;
- (5) Recursive; the rules can be repeatedly applied so as to generate an infinite number of sentences.

This is what is called the PHRASE STRUCTURE GRAMMAR, the second model put forward by Chomsky, which consists solely of phrase-structure (PS) rules that formalise some of the traditional insights of constituent structure analysis. This grammar has greater generative powers than a finite state grammar

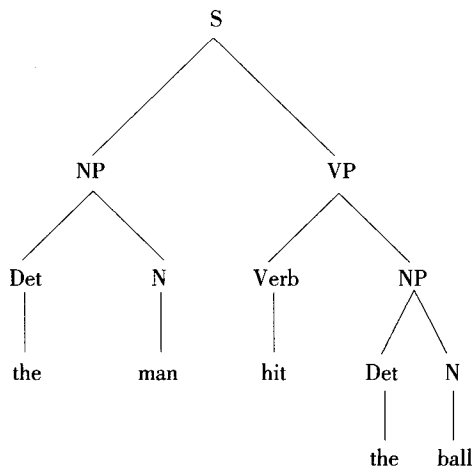
because it can process sentences that cannot be processed by the latter. The phrase-structure rules are as follows:

1. $S \rightarrow NP + VP$
2. $VP \rightarrow \text{Verb} + NP$
3. $NP \rightarrow NP \text{ (singular)}$
 $NP \text{ (plural)}$
4. $NP(s) \rightarrow D + N$
5. $NP(p) \rightarrow D + N + S$
6. $D \rightarrow \text{the}$
7. $N \rightarrow \{\text{man, ball, door, dog, book, ...}\}$
8. $\text{Verb} \rightarrow \text{Aux} + V$
9. $V \rightarrow \{\text{hit, take, bite, eat, walk, open, ...}\}$
10. $\text{Aux} \rightarrow \text{Tense} (+ M) (+ \text{have} + \text{en}) (+ \text{be} + \text{ing})$
11. $\text{Tense} \rightarrow \text{Present}$
 Past
12. $M \rightarrow \{\text{will, can, may, shall, must, ...}\}$

The arrow means “can be rewritten as”. Phrase structure rules are also called rewriting rules. The generative process of a sentence is the process of rewriting one symbol into another. For example, to generate a sentence “*The man hit the ball*”, we have to use the rules and represent them by bracketing as:

$NP(\text{Det}(\text{the})N(\text{man})) VP(V((\text{hit}) NP(\text{Det}(\text{the}) N(\text{ball}))))$

or in a diagram as:



BRACKETING applies mathematical principles, where “ $x(y+z)$ ” is different from “ $xy+z$ ”. When the sequence of computation is different, the

results are certainly different: “(old men) and women” is different from “old (men and women)”. This shows explicitly (1) the word classes (sometimes number, tense, and the structure); (2) the categories and formation of phrases; and (3) relations between phrases. Tree diagramming has the same functions. It is a hierarchical system, explicitly showing the relations between elements: *man* (belonging to NP) is related to *hit* (belonging to VP) only through a node.

In his *Syntactic Structures*, Chomsky lists sixteen transformational rules for English. For example, English mostly depends on “not” for negation, and its occurrences have certain regular rules, as in

Ex. 12-6

- | | | |
|-----------------|------------------|---------------------------|
| (1) <u>She</u> | <u>might not</u> | <u>visit us today.</u> |
| (2) <u>John</u> | <u>has not</u> | <u>finished his work.</u> |
| (3) <u>Jane</u> | <u>is not</u> | <u>reading.</u> |
| (4) <u>He</u> | <u>didn't</u> | <u>kiss his mother.</u> |
| 1 | 2 | 3 |

The first part of each sentence is an NP. The second part can be analysed into a concord element^①, represented by C, plus a modal verb, *have*, *be*, and *do* respectively, that is, “C + M”, “C + have”, “C + be”, and “C + do”. The third parts, elements after the negative form, are of no importance and can be represented with an ellipsis (...).

Structural analysis: NP—C + M—...

NP—C + have—...

NP—C + be—...

NP—C + do—...^②

With the three parts of each sentence substituted with X_1 , X_2 , and X_3 , the transformational rule for negation can be written as:

Structural changes: $X_1 - X_2 - X_3 \rightarrow X_1 - X_2 + n't - X_3$

Chomsky has distinguished transformational rules into two kinds: obligatory and optional. The transformation of auxiliaries and particles are obligatory, and the transformation of negation, the passive voice, etc. are optional. The reason for different types of sentences is that they have experienced different transformational processes. According to Chomsky, the following eight sentences have undergone different transformations:

① The concord element (C) is responsible for the realisation of the inflected forms like “has”, “is”, etc.

② Chomsky's original form is “NP—C—V...”. (1957: 61)

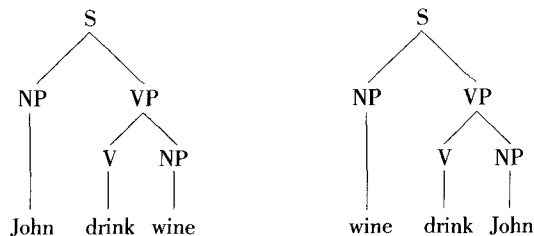
Ex. 12-7

- (1) The man opened the door.
- (2) The man didn't open the door.
- (3) Did the man open the door?
- (4) Didn't the man open the door?
- (5) The door was opened by the man.
- (6) The door was not opened by the man.
- (7) Was the door opened by the man?
- (8) Wasn't the door opened by the man?

The first sentence has only undergone obligatory transformations, and such a simple, active, and positive declarative sentence is called a "kernel sentence". The sentences that follow have undergone the transformation of negation (2), the transformation of interrogation (3), the transformation of negative interrogation (4), passive transformation (5), the transformation of passive negation (6), the transformation of passive interrogation (7), and the transformation of passive negative interrogation (8). These eight types of sentences are derived from the same deep structure.

12.4.4 The Standard Theory

The Standard Theory is marked by *Aspects of the Theory of Syntax* (Chomsky, 1965). After the publication of his *Syntactic Structures*, Chomsky found serious problems that called for solution in order to reach his theoretical goals. The first problem is that the transformational rules are too powerful. An ordinary sentence can be transformed at will, negated, passivised, with certain elements added or deleted, without restrictions. The second problem is that his rules may generate ill-formed sentences as well as well-formed ones. For example, with the rules $S \rightarrow NP + VP$, and $VP \rightarrow V + NP$, there might be generated the following two:

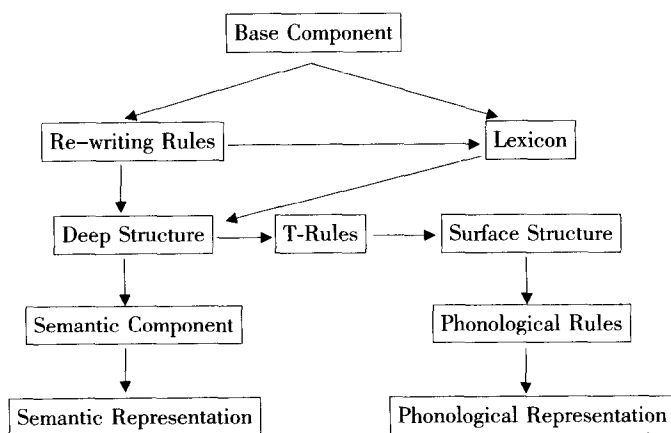


This indicates that there are certain selectional rules between the verb and the noun. The third problem is that the transformational rules for the passive voice

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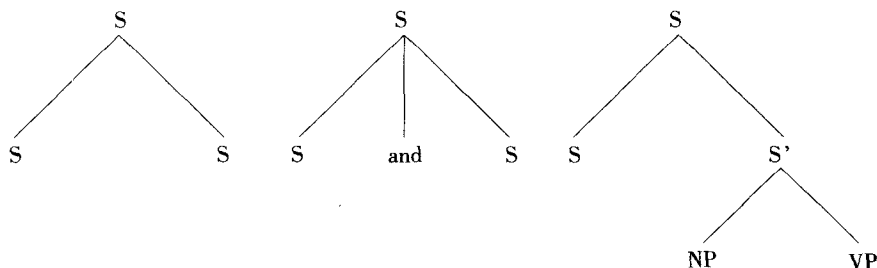
cannot be used at will, because some of the English verbs do not have passive structures. We can say *John married Mary*, but *Mary was married by John* means something different (that is, John is the priest who presided over Mary's wedding). We can say *John resembles his father*, but cannot transform this sentence into *His father was resembled by John*. These facts show that the transformational rules are not universally applicable. In this respect, Chomsky noted that application of the transformational rules should not change the meaning of the original sentence, and that the noun must be restricted by the verb.

In his *Aspects of the Theory of Syntax*, Chomsky made a remarkable change by including a semantic component in his grammatical model. He says that a generative grammar should consist of three components: syntactic, phonological and semantic. The syntactic component can be called the base component, which consists of re-writing rules and the lexicon. It is the re-writing rules that generate the deep structure of the sentence, and the transformational rules, in turn, transform the deep structure into surface structure. The semantic component makes semantic interpretations on the deep structure, and the phonological component makes phonological interpretations on the surface structure. The relationships of the three components can be illustrated by the following diagram:



The Standard Theory improved a lot on the Classical Theory. Firstly, transformations can only change the forms of sentences and are not allowed to

alter the meaning. Secondly, to rule out the generation of sentences like *Wine drinks John*, there is now a selectional restriction to ensure that the animate noun (*John*) appears before the verb (*drink*) and the inanimate noun (*wine*) appears after the verb (*drink*). Thirdly, restrictions are put on transformations in order not to generate ill-formed sentences. Fourthly, in re-writing rules, the symbol S is introduced on the right of the arrow, so that there are rules like: $VP \rightarrow V + S$ and $NP \rightarrow NP + S$. This means that sentences can be embedded. By means of this rule, this theory not only covers simple sentences but also complex ones:



Fifthly, the rules are properly ordered and there is a set order in which the rules apply. It makes a great difference which rule comes first and which comes next. For example, the Reflexive Rule says that in simple sentences, if a noun appears twice, the second noun should be in reflexive form (*John kills John* = *John kills himself*), and the Imperative Rule says, “delete the noun before the verb in an imperative” (*You come here!* = *Come here!*). Clearly, in a simple statement, the Reflexive Rule applies first, e. g. *John kills John* → *John kills himself*, and the Imperative Rule does not apply, since *John kills John* is not an imperative and it can not be transformed into * *Kills John* or * *Kills himself*. Likewise, in an imperative, the Imperative Rule applies first and the Reflexive Rule does not apply, since in *You come here* the noun (*you*) does not appear twice.

12.4.5 The Extended Standard Theory

In the Extended Standard Theory, Chomsky revised his Standard Theory twice. The first revision is called the “Extended Standard Theory” (EST). The second revision is called the “Revised Extended Standard Theory” (REST).

In spite of the revisions of the Classical Theory made in the Standard Theory, there are still a lot of problems to be solved. Firstly, the transformational rules are still too powerful, for they can move or delete linguistic segments, change the categories, keep the original meaning intact, and

vary according to specific circumstances. Secondly, the Standard Theory holds that derived nouns such as *criticism* and *explanation* have the same semantic properties with their corresponding verbs, thus the following sentences are bizarre:

Ex. 12 - 8

- (1) * The square root of 5's criticism of the book.
- (2) * The square root of 5 criticised the book.

Later it was found that the relations between derived nouns and their corresponding verbs are irregular not only in terms of syntactic features, but also in phonological and semantic relations, which are too difficult to generalise. Thirdly, the Standard Theory holds that semantic interpretations are determined by the deep structure, and transformational processes will not change the sentence meaning. Later this was found to be impossible, for any kind of transformations will certainly change the sentence meaning. For example, in ex. 12 - 9 (1) is different from (1'), and (2) is different from (2'):

Ex. 12 - 9

- (1) Everyone loves someone.
- (1') Someone is loved by everyone.
- (2) Tom doesn't go to town very often.
- (2') Very often Tom doesn't go to town.

Chomsky also admitted that sentences would change their presuppositions after transformations. For example,

Ex. 12 - 10

- (1) Beavers build dams.
- (1') Dams are built by beavers.

While (1) focuses on the nature of beavers, (1') focuses on the nature of dams, the two strings meaning quite different things. Fourthly, the Standard Theory cannot explain gapped structures as:

Ex. 12 - 11

John ate some spaghetti, and Mary some macaroni.

Here the item *ate* can be omitted in the second clause according to the deletion rule, which can only be applied after semantic interpretation. This is, therefore, contrary to the model of the Standard Theory. Fifthly, investigations of more types of structures showed that many transformational rules must have complex constraints in order that they do not produce ungrammatical sentences. On the one hand, there should be one transformational rule for some universal phenomena. On the other hand, there are exceptions that have to be constrained. For example, a lot of verbs may occur in the following two structures:

Ex. 12-12

(1) John gave a book to Mary. (_____ NP PP)

(2) John gave Mary a book. (_____ NP NP)

At the same time, a lot of verbs can only appear in the first structure;

Ex. 12-13

(1) John donated a book to Mary. (_____ NP PP)

(2) *John donated Mary a book. (_____ NP NP)

As a result, the part that is transformed becomes a set of rules and the conditions for a set of restrictive rules. When efforts are made later to find universal features in the restrictive rules, new rules arise.

In his first revision of the Standard Theory, Chomsky moved part of semantic interpretation to the surface structure. Take the categories of the logical component for example, in the following two sentences,

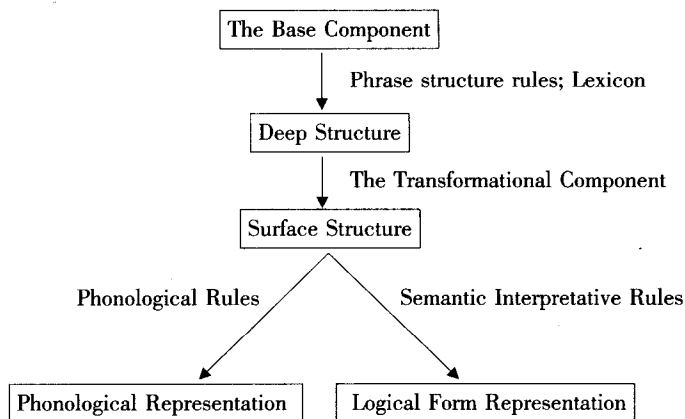
Ex. 12-14

(11) Not many arrows hit the target.

(12) Many arrows didn't hit the target.

their deep structure is "NOT [many arrows hit the target]". Through transformations, the two sentences differ semantically due to the logical component NOT. This shows that semantic interpretation does play certain roles in the surface structure, but Chomsky still believed that semantics is determined by the deep structure.

Chomsky's second revision involves the whole theoretical framework, which can be illustrated by the following diagram.



The most remarkable change is that Chomsky now completely puts semantic interpretation in the surface structure. And, accordingly, from semantic interpretative rules is derived logical form representation. Hence, semantics was left out of the domain of syntax.

12.4.6 Later Theories

In the 1980s, Chomsky's TG Grammar entered the fourth period of development with the theory of GOVERNMENT AND BINDING (GB). It consists of X-bar Theory, θ -Theory, Bounding Theory, Government Theory, Case Theory, Control Theory, and Binding Theory. Although all others, with the exception of the θ -Theory, had been mentioned in EST, the GB Theory further developed and complemented the discussions in EST.

The theory of GB directs our attention to a new orientation, i. e. the empty category (EC). Chomsky believes that through the empty category, we can further get to know about the mechanism of language. It is still not certain whether the various principles concerning empty categories are applicable to all languages and whether these categories are universal.

Chomsky's *The Minimalist Program* (1995) marked a new stage of his generative theory. The Minimalist Program is motivated by two related questions: (1) What are the general conditions that the human language faculty should be expected to satisfy? (2) To what extent is the language faculty determined by these conditions, without a special structure that lies beyond them?

Compared with its immediate predecessor, the GB theory, this new theory is characterised by several remarkable changes. First, some of the discrete analytical models in the GB are discarded and the two levels of analysis, the deep structure and the surface structure, are left out. Second, the important concept of "government" in the previous theory is rejected and the facts interpreted by the theory of government are replaced by several revised concepts, thus the theory of government has turned from a subsystem of universal grammar into the interpretative constraint of the output condition.

In the late 1990s, Chomsky reconsidered the motivation for the Minimalist Program in order to give it a clearer explanation. He holds that the initial states of human languages are the same whereas the states of acquiring different languages are not. A universal grammar is a theory for studying the initial states, and particular grammars are theories for studying the states of acquisition. While the faculty of language consists of a cognitive system that stores information such as sound, meaning, and structure, the performance system retrieves and uses the

information. He raises a profound question: How well is the language faculty designed?

Chomsky imagines a case in which a certain primate is comparable to human beings except for its lack of the faculty of language. Suppose some event has reorganized its mind by giving it the faculty of language. In order for the new mechanism to be operable, it must meet the "legibility conditions", and the other systems of the mind/brain must be able to understand the expressions generated by the new mechanism. On the other hand, the directions given by the new mechanism must be recognised and accepted by the other systems of the mind/brain. Thus, Chomsky puts forward the strongest minimalist thesis: Linguistic mechanism is the ideal solution to the problem of legibility conditions.

The development of TG Grammar can be regarded as a process of constantly minimalising theories and controlling the generative powers, and the Minimalist Program and the Minimalist Inquiries are just some logical steps in this process. Although TG Grammar has involved putting forward, revising, and cancelling of many specific rules, hypotheses, mechanisms, and theoretical models, its aims and purposes have been consistent, i. e. to explore the nature, origin and the uses of human knowledge on language.

12.4.7 Main Features of TG Grammar

Chomsky's TG Grammar differs from the structural grammar in a number of ways: (1) rationalism; (2) innateness; (3) deductive methodology; (4) emphasis on interpretation; (5) formalization; (6) emphasis on linguistic competence; (7) strong generative powers; (8) emphasis on linguistic universals.

First, Chomsky defines language as a set of rules or principles. Second, Chomsky believes that the aim of linguistics is to produce a generative grammar which captures the tacit knowledge of the native speaker of his language. This concerns the question of learning theory and the question of linguistic universals. Third, Chomsky and his followers are interested in any data that can reveal the native speaker's tacit knowledge. They seldom use what native speakers actually say; they rely on their own intuition. Fourth, Chomsky's methodology is hypothesis-deductive, which operates at two levels: (a) the linguist formulates a hypothesis about language structure—a general linguistic theory; this is tested by grammars for particular languages, and (b) each such grammar is a hypothesis on the general linguistic theory. Finally, Chomsky follows rationalism in philosophy and mentalism in psychology.

12.5 Revisionists or Rebels?

In spite of the dominant influences of Transformational-Generative Grammar in the American linguistic scholarship, it has been challenged by a number of rebels, among whom, are Case Grammar and Generative Semantics.

12.5.1 Case Grammar

CASE GRAMMAR is an approach that stresses the semantic relationships of elements in a sentence. It is a type of generative grammar developed by C. J. Fillmore in the late 1960s. In this grammar, the verb is regarded as the most important part of the sentence, and has a number of relationships with various noun phrases. These relationships are called "cases". For example, in the sentences

Ex. 12 – 15

Smith killed the policeman with a revolver.

This revolver killed the policeman.

with a revolver and *This revolver* have different syntactic functions, but their semantic relationships with the verb *kill* are the same in both sentences. The *revolver* is the instrument with which the action of the verb *kill* was performed, *with a revolver* indicates the manner in which the killing action took place.

Fillmore sees his Case Grammar as a "substantive modification to the theory of transformational grammar" (Fillmore, 1968: 21) as represented by Chomsky. Chomsky's model was unable to account for the functions of the items in the clause as well as for their categories. It only showed, for instance, that the expressions like *in the room*, *towards the moon*, *on the next day*, *in a careless way*, *with a sharp knife*, and *by my brother* are of the category PP, without showing that they simultaneously indicate the functions, location, direction, time, manner, instrument, and agent respectively. Fillmore suggests that this problem would be solved in the following way. The underlying syntactic structure of prepositional phrases can be analysed as a sequence of a noun phrase and an associated prepositional case marker. This noun phrase and the prepositional case marker are both dominated by a case symbol that indicates the thematic role of that prepositional phrase. He also suggested that in fact every element of a clause which has a thematic role to play should be analysed in terms of case markers and case symbols.

Fillmore's argument is based on the assumptions that syntax should be

central in the determination of case and that covert categories are important. "Case" is used to identify "the underlying syntactic-semantic relationship", which is universal. The term "case form" identifies "the expression of a case relationship in a particular language". The notions of subject and predicate and of the division between them should be seen as surface phenomena only. In its basic structure, the sentence consists of a verb and one or more noun phrases, each associated with the verb in a particular case relationship. The various ways in which cases occur in simple sentences define sentence types and verb types of a language.

The obvious attractions of Case Grammar include the clear semantic relevance of notions such as agency, causation, location, advantage to someone, etc. These are easily identifiable across languages, and are held by many psychologists to play an important part in child language acquisition. According to Lyons, however, Case Grammar is no longer seen by the majority of linguists working within the general framework of TG Grammar as a viable alternative to the Standard Theory. The reason is that when it comes to classifying the totality of the verbs in a language in terms of the deep-structure cases that they govern, the semantic criteria which define these cases are all too often unclear or in conflict.

12.5.2 Generative Semantics

Generative Semantics was developed in the late 1960s and early 1970s, as a reaction to Chomsky's syntactic-based TG Grammar. The leading figures of this approach are J. R. Ross, G. Lakoff, J. D. McCawley, and P. Postal. Generative Semantics considers that all sentences are generated from a semantic structure. This semantic structure is often expressed in the form of a proposition that is similar to logical propositions in philosophy. Linguists working within this theory have, for example, suggested that there is a semantic relationship between such sentences as:

Ex. 12 - 16

This dog strikes me as being his new master.

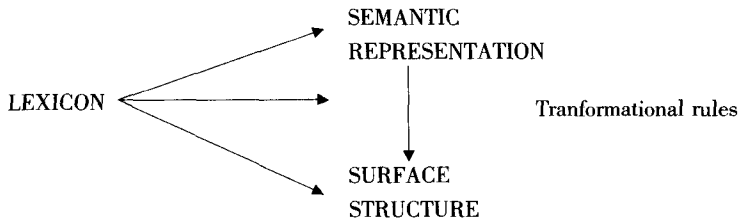
and

This dog reminds me of his new master.

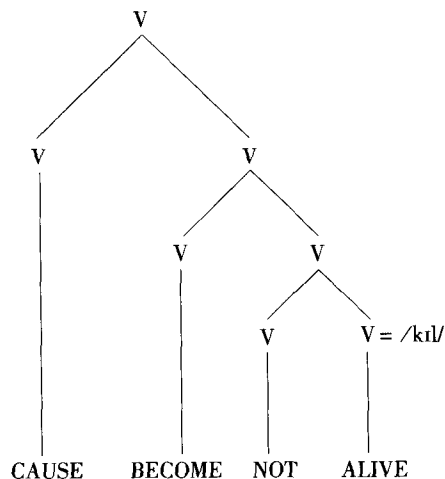
because they both have the semantic structure of: X perceives that Y is similar to Z.

GENERATIVE SEMANTICS holds that there is no principled distinction between syntactic processes and semantic processes. This notion was accompanied by a number of subsidiary hypotheses. First, the purely syntactic level of deep

structure posited by Chomsky's *Aspects of the Theory of Syntax* (1965) cannot exist. Second, the initial representations of derivations are logical representations identical in all languages. Third, all aspects of meaning are representable in phrase-marker form. In other words, the derivation of a sentence is a direct transformational mapping from semantics to surface structure. The initial generative semantic model can be represented by the following diagram:



As the diagram indicates, the question of how and where lexical items entered the derivation was a controversial topic in Generative Semantics. McCawley (1968) dealt with this problem by treating lexical entries themselves as structured composites of semantic material (the theory of lexical decomposition), and thus offered the entry for *kill* as:



Generative semanticists realised that their rejection of the level of deep structure would be little more than word-playing. For the transformational mapping from semantic representation to surface structure turned out to be characterised by a major break before the application of the familiar cyclic rules—particularly if the natural location for the insertion of the lexical items

was precisely at this break. They therefore constructed a number of arguments to show that no such work existed. The most compelling were moulded after Morris Halle's classic argument against the structural phoneme. Generative semanticists attempted to show that the existence of a level of deep structure distinct from semantic representation would demand that the same generalisation be stated twice, once in the syntax and once in the semantics (Postal, 1970).

Generative Semantics had collapsed well before the end of the 1970s. While Generative Semantics is no longer regarded as a viable model of grammar, there are innumerable ways in which it has left its mark on its successors. First, it was generative semanticists that started an intensive investigation of syntactic phenomena which defied formalisation by means of transformational rules. Second, many proposals originally disputed by generative semanticists have since appeared in the interpretivist literature. Finally, the important initial studies which Generative Semantics inspired on the logical and sub-logical properties of lexical items, on speech acts, both direct and indirect, and on the more general pragmatic aspects of language are becoming more and more appreciated as linguistic theory is finally developing means to incorporate them.

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